

Parkland  
(as received)

Jacaban2, Evalynne (INFC)

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**From:** SC / VI (INFC)  
**Sent:** March 7, 2019 4:52 PM  
**To:** Barb Scully  
**Subject:** RE: Smart Cities Challenge - Successful Final Proposal Submission

Thanks so much!

**Smart Cities Challenge Team**  
Infrastructure Canada  
[infsc-vi.infsc@canada.ca](mailto:infsc-vi.infsc@canada.ca)

**From:** Barb Scully [REDACTED]@parklandcounty.com]  
**Sent:** March 7, 2019 4:50 PM  
**To:** SC / VI (INFC) <[infsc-vi.infsc@canada.ca](mailto:infsc-vi.infsc@canada.ca)>  
**Subject:** RE: Smart Cities Challenge - Successful Final Proposal Submission

Lol, sorry!  
The video is on the page as well.  
[www.parklandcounty.com/smartcities](http://www.parklandcounty.com/smartcities)

**From:** SC / VI (INFC) [<mailto:infsc-vi.infsc@canada.ca>]  
**Sent:** Thursday, March 07, 2019 2:49 PM  
**To:** Barb Scully [REDACTED]@parklandcounty.com>  
**Subject:** RE: Smart Cities Challenge - Successful Final Proposal Submission

Hi Barb,

Did you mean to add the link? Also, if you have posted your finalist video, we would appreciate the link for that too.

**Smart Cities Challenge Team**  
Infrastructure Canada  
[infsc-vi.infsc@canada.ca](mailto:infsc-vi.infsc@canada.ca)

**From:** Barb Scully [REDACTED]@parklandcounty.com]  
**Sent:** March 7, 2019 4:38 PM  
**To:** SC / VI (INFC) <[infsc-vi.infsc@canada.ca](mailto:infsc-vi.infsc@canada.ca)>  
**Subject:** RE: Smart Cities Challenge - Successful Final Proposal Submission

Here is a link to our submission.  
Thanks!  
Barb

**From:** SC / VI (INFC) [<mailto:infsc-vi.infsc@canada.ca>]  
**Sent:** Thursday, March 07, 2019 10:00 AM  
**To:** Barb Scully [REDACTED]@parklandcounty.com>  
**Subject:** Smart Cities Challenge - Successful Final Proposal Submission



Dear Barb,

Congratulations! Your submission is ready to move onto evaluation following a completeness check (per the latest FAQs).

Thank you for your cooperation, patience, and hard work, especially during the past eight months. We are truly honoured to have worked with you and wish you the best of luck in the competition!

On a related matter, we have recently determined that it will not be feasible to post final proposals on the Infrastructure Canada website in a timely manner. Instead, we will take an approach similar to the application stage and publish your executive summary in both official languages on the Infrastructure Canada website with a link to the final proposal on your website. We understand that posting the final proposal on your website is not a requirement contained in the finalist guide so we appreciate your cooperation in facilitating access to your final proposal in an open and transparent way. Please note that the accessibility materials you have prepared for your final proposal will still be helpful in preparing various communications products to promote and share knowledge of your work.

Once you have posted your final proposal on your website, please send us the link if you haven't done so already. If you anticipate that you will be unable to post your final proposal on your website within two weeks, please let us know.

As always, we are happy to answer any questions. The best way to reach us going forward would be at our generic account: [infc.sc-vi.infc@canada.ca](mailto:infc.sc-vi.infc@canada.ca).

Thank you.

**Smart Cities Challenge Team**  
Infrastructure Canada  
[infc.sc-vi.infc@canada.ca](mailto:infc.sc-vi.infc@canada.ca)

## COMPLETE CHECK FOR FINAL PROPOSAL

<b>FINALIST:</b> Parkland, Brazeau, Yellowhead, and Lac Ste. Anne				
<b>ASSESSED BY:</b> Susan Hwang				
<b>VALIDATED BY:</b> Alex Long				
<b>APPROVAL BY:</b> Eric Poirier				
<b>DATE OF COMPLETION:</b> March 5, 2019				
REQUIREMENTS	COMPLETED	IF NOT COMPLETED, NOTE REASON	GUIDING PRINCIPLES	ACTIONS
<b>SUBMISSION</b>				
Submitted to <a href="mailto:infc.sc-vi.infc@canada.ca">infc.sc-vi.infc@canada.ca</a> by 23:59 PST on March 5, 2019	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>No extensions will be granted</li> <li>No exceptions will be made for lateness or technical problems (finalist must be able to show evidence of submission)</li> </ul>	<ul style="list-style-type: none"> <li># to contact finalist</li> <li>If not resolved, # to flag to DG for decision</li> </ul>
Final proposal is submitted	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>No extensions will be granted</li> <li>There is flexibility on the finalist video until the end of the week</li> </ul>	<ul style="list-style-type: none"> <li>Assessor to save everything in designated folders</li> <li># to contact finalist if anything is missing</li> <li>If not resolved, # to flag to DG for decision</li> </ul>
Finalist video is submitted	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>There is flexibility on the finalist video until the end of the week</li> </ul>	<ul style="list-style-type: none"> <li>Assessor to save everything in designated folders</li> <li># to contact finalist if anything is missing</li> <li>If not resolved, # to flag to DG for decision</li> </ul>
Preliminary Privacy Impact Assessment or Preliminary Rationale Analysis	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>No extensions will be granted</li> </ul>	<ul style="list-style-type: none"> <li>Assessor to save everything in designated folders</li> <li># to contact finalist if anything is missing</li> <li>If not resolved, # to flag to DG for decision</li> </ul>
<b>FINAL PROPOSAL</b>				
Written in one of Canada's official languages	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>If the final proposal is submitted in a language other than English or French, a companion version in English or French is required from the finalist</li> </ul>	<ul style="list-style-type: none"> <li># to extract the executive summary from the final proposal and send it to translation (if a French final proposal, send the entire document to translation)</li> </ul>
Generally readable (e.g. picture is not covering text, text are not overlapping)	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>If there are serious formatting issues that hinders readability, the finalist may need to resubmit</li> </ul>	<ul style="list-style-type: none"> <li># to do a scan of the final proposal and verify that all text and tables, graph, etc. could be read</li> </ul>
Text-based and in either MS Word (.doc or .docx) or a fully readable, searchable, and selectable PDF (.pdf) format	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>Finalist may adjust the format for INFC posting purposes after the deadline</li> </ul>	<ul style="list-style-type: none"> <li># to verify with Comms if format is suitable for posting, given INFC web accessibility standards</li> <li>If not suitable, # to contact finalist</li> </ul>
No longer than 75 pages* (Financial chapter exempted) and in 12 point font	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>Finalist cannot adjust content after the deadline</li> <li>If the text overall is smaller than 12 point font, INFC will adjust and evaluate within the new page count</li> </ul>	<ul style="list-style-type: none"> <li># to notify finalist if final proposal is over 75 pages</li> <li># to notify finalist if INFC had to adjust the font and page count</li> </ul>

Contains an executive summary	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li># to QC and save translated version into the designated folder</li> </ul>
<b>Organized by these distinct chapters (not limited to these; not necessarily in the same order):</b> <ul style="list-style-type: none"> <li>Vision</li> <li>Performance measurement</li> <li>Project management</li> <li>Technology</li> <li>Governance</li> <li>Engagement</li> <li>Data and privacy</li> <li>Financial</li> <li>Implementation phase requirements</li> </ul>	<input checked="" type="checkbox"/>	<i>Also make a note of other chapters, if any</i>	<ul style="list-style-type: none"> <li>Finalist must have these chapters</li> <li>Finalist can have more chapters</li> <li>Finalist can change the order of the chapters</li> </ul>	<ul style="list-style-type: none"> <li>If the chapters are not clearly labeled, # to do a light analysis of where the content may be and make a note for the Jury</li> </ul>
<b>FINALIST VIDEO</b>				
No longer than five minutes	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>Finalist may cut down the time for INFC posting purposes after the deadline</li> </ul>	<ul style="list-style-type: none"> <li># to notify finalist if video is longer than five minutes and needs cutting down</li> </ul>
Submitted as a file or in a downloadable format	<input checked="" type="checkbox"/>	NOTE: Accessibility document not submitted; will follow up if required	<ul style="list-style-type: none"> <li>Finalist may adjust the format for INFC posting purposes after the deadline</li> </ul>	<ul style="list-style-type: none"> <li># to verify with Comms if format is suitable for posting, given INFC web accessibility standards</li> <li>If not suitable, # to contact finalist</li> </ul>
<b>CONFIDENTIAL ANNEX (OPTIONAL)</b>				
Submitted if and only if required	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li># to flag with DG if confidential annex is lengthy</li> </ul>

**From:** SC / VI (INFC)  
**Sent:** March 4, 2019 5:15 PM  
**To:** Barb Scully  
**Subject:** RE: Submission

Hello,

Thank you for your submission. Please consider this email as acknowledgement of receipt. We will follow up with you to confirm that your final proposal is ready for evaluation.


Thank you.

**Smart Cities Challenge Team**  
Infrastructure Canada  
[infsc-vi.infsc@canada.ca](mailto:infsc-vi.infsc@canada.ca)

**From:** Barb Scully [REDACTED]@parklandcounty.com]  
**Sent:** March 4, 2019 4:48 PM  
**To:** Long, Alexander (INFC) <[alexander.long@canada.ca](mailto:alexander.long@canada.ca)>  
**Subject:** Submission

Hi Alex,  
Final submission has been sent through drop box! Please confirm you received.  
Thanks  
Barb

Barb Scully | Connected Communities Program Manager | Parkland County | 53109A HWY 779, Parkland County, Alberta T7Z 1R1  
Office: 780-968-8888 ext. [REDACTED] Cell: [REDACTED]@parklandcounty.com | [www.parklandcounty.com](http://www.parklandcounty.com)

 **One Parkland: Powerfully Connected.**  
See how you can grow your community:  
<https://youtu.be/JwFnVyMbQiw>



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The logo consists of a black rounded rectangle with a white diagonal line cutting from the top right corner. The word "AGORA" is written in white, bold, sans-serif capital letters on the black background.

**AGORA**

# **Smart Cities Challenge**

## **Final Proposal**

**March 5, 2019**

Brazeau County // Lac Ste. Anne County // Parkland County // Yellowhead County

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## EXECUTIVE SUMMARY

As a group of four rural counties in Alberta, we are pleased to submit our proposal to Smart Cities Canada! We believe we have risen to your Challenge.

When awarded the Challenge prize, we aim to transform how rural Canada uses and accesses Information Communications Infrastructure for the common good. We will lever the benefits of connected technologies to improve rural lives, rural economies and rural environments. We will bridge the divide with urban Canada and better connect urban residents with their sustainable food supply. We seek to create a region where internet connectivity, smart technologies, and innovative data trust applications are developed and used to increase rural prosperity and will attract citizens to an innovative and prosperous way of life.

We are about to embark on a path to tackle one of Canada's most wicked of problems:

*Deliver decision-making tools, informed by hyper-local data and connectivity solutions, that benefit residents that, in turn, improves Canada's food production and distribution system, enhances rural safety and security, incents young families to become life-long farm operators, and, when fully implemented, increases the prosperity of rural Canada.*

The challenge is large – our plan begins the process. It delivers upon the outline submitted in the Spring of 2018, and builds upon it in significant ways. A full strategic plan, with all the supporting details demanded through this rigorous application process, defines our way forward.

We propose a not-for-profit company reflecting our rural intent – **AGora** – be created to bring life to our strategy.

**AGora:** an internet enabled meeting and marketplace, based on the original Greek agora where people meet, discuss, research, resolve, profit and prosper.

True to the intention of the Smart Cities Challenge, we are focussed on delivering value that can be adopted nationwide. We intend to use state of the art technologies to create **AGora** so it can be used by others. And it has not and will not be created in isolation. Collaboration underpins our achievements so far, and will be core to our long-term success. Community members and partners of all types will work with us to deliver value.

Our proposal defines a common purpose and shared approach to tackle our 'wicked problem' head on, and not wait for events to overtake rural Canada. We see a positive future for all rural regions in Canada, with connected technologies at the core.

We ask that you step forward in partnership with us to bring about a new future for Rural Canada. Something that perhaps was not contemplated when the Smart "Cities" Challenge was announced, but something that will deliver fundamental value to Canada's urban and rural residents alike.

We invite you to join us!

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## VISION

### 1. The Four-County Challenge

This proposal sustains the collective vision of Parkland, Brazeau, Lac Ste. Anne and Yellowhead counties in Alberta to create a smart rural region and describes how this will be achieved.

The proposal continues to focus on the collaborative Challenge that:

*Our agricultural community will revitalize and grow through the connection of people to the land and food while attracting citizens to share in its prosperous, innovative and resilient way of life.*

Our four counties envision a growing local populace that is positioned to succeed in the digital economy. Economic growth and population growth will require access to the Information and Communications Technology (ICT) economy and the decision tools required to prosper.

Our objective is to create a region where internet connectivity, smart technologies, and innovative data trust applications are developed and used to create a more prosperous agricultural economy, protect and improve the environment, enhance rural quality of life, increase safety and security, and provide leading-edge connectivity for our farms and citizens.

#### **Rural Economy**

The initiative will create a rural economy where opportunities expand, stronger links to urban markets support and diversify the economy, smaller farms are more viable, larger farms use precision agriculture to improve productivity and increase profitability, and increased opportunity and prosperity enable intergenerational farm transfer.

#### **Rural Environment**

The initiative will enable decisions that protect and improve the environment and husband the region's natural assets and land base. This includes identifying new end-uses for waste that is now being landfilled, efficient use of agricultural/residential by-products and green energy opportunities.

#### **Rural Quality of Life**

The initiative will enhance rural quality of life by creating communities with a more diverse age demographic, helping smaller farms to establish and prosper, increasing agricultural diversity, attracting residents with different social and economic interests, expanding the tax base to upgrade infrastructure, and increasing mental health as incomes grow and financial challenges are eased.

#### **Rural Safety and Security**

The initiative will make the region safer and more secure by improving road safety, reducing the incidence and severity of rural crime, and improving response times for law enforcement.

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## **Rural Connectivity, Dataflow, and Data Trust**

The initiative will provide leading-edge connectivity, where technology enables people to live further from urban centres, obtain equitable service, and derive more value from the agricultural data it produces, via a secure and fully auditable data exchange and trading platform.

Data protection has emerged as a factor critical to the long-term prosperity of communities. Data is the new enterprise currency – the ability to collect, analyze and lever it for the benefit of the data provider will distinguish one enterprise from another. This is no less so in the agricultural sector. Deriving value from this ‘second crop’ will be achieved by combining a single piece of data with other data and then generating more data – an evergreen crop. This virtuous cycle will help solve real-world farm management problems, provide new revenue sources and identify and solve community problems quickly and easily.

## **2. The Proposed AGora**

We are proposing to incorporate a not-for-profit organization that will act as a rural innovation incubator, bringing together partners from all sectors to catalyze early adoption and use of high-speed internet communications, smart technologies, and innovative internet applications.

**We are calling this new entity AGora.**

AGora will establish the infrastructure required to provide a test platform for:

- Experimenting with new technologies and models for rural internet connectivity
- Supporting innovation in agricultural technology and agricultural practices
- Creating new applications that support rural citizens, communities, and businesses
- Protecting and monetizing data through new technologies on behalf of data producers

AGora will:

- Establish a data trust to ensure control and sovereignty of the data assets
- Deliver hyper-local data and analytics to provide value and incent participation
- Recruit an initial cohort of farmers, local businesses and rural farm-based businesses who will commit to provide their operations as a test bed for technology development and continuous improvement, and will provide high-speed connectivity for these early adopters
- Recruit technology developers who will benefit from and are willing to pay for access to these early adopters help create new technologies on highly-connected farms
- Use revenues from this ‘pay-to-play’ model to extend connectivity to others in the region

Through its activities, AGora will:

- Develop an affordable model for rural digital connectivity that can be replicated in other rural regions
- Develop made-in-Canada innovations in smart agricultural technology
- Accelerate adoption of new agricultural practices that improve farm productivity and profitability
- Catalyze development of internet-based applications that enrich rural life
- Improve urban Canada’s understanding of its food production and security system
- Establish data as a ‘second crop’ for farmers that is renewable, expandable and profitable

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Data will be AGora's stock-in-trade. It is the critical focus of every product and service supported by AGora, which will provide content that is the most relevant, timely and valuable for regional agricultural producers and other clients. This focus on data will help AGora and its clients capitalize on these rich and comprehensive data resources that many commercial enterprises already exploit. Increasingly, agriculture producers and the broader population are coming to understand they have been supplying these and other private enterprises with useful and marketable data, with virtually no direct return. AGora's efforts to cultivate leadership in rural innovation will focus on improving digital and data literacy throughout the region and will build AGora and client capacities for data discovery, data science, data marketing, data brokering, and other profitable functions related to the lucrative and expanding global data economy.

### 3. Meeting Real Community Needs

#### 3.1. Community Consultation and Engagement

This initiative will create outcomes that are highly relevant for the four-county region and its residents. These outcomes represent real community needs that have been refined through extensive consultation and engagement. The processes used to develop our vision and prepare this implementation plan are described in the ENGAGEMENT chapter.

#### 3.2. Supporting Evidence

There is significant supporting evidence for the relevance of our key strategic objectives and the benefits of addressing this Challenge.

##### **Rural Economy**

Farms are getting larger, numbers are dwindling, and wealth is accumulating in the largest. In Alberta, the average age of farm operators increased from 48.2 years in 1996 to 55.7 in 2016. It is more difficult for young people to enter the agriculture business and to stay in business; farms are expanding instead of diversifying.

Where able, rural residents are enthusiastic adopters of new technology. Farmers always have had to figure out how best to market their products. Today, 12.7% of Canadian farms use direct marketing tools to access markets. This is more the case for small farms than large - 25.2% of farms with sales less than \$10,000 use direct marketing, compared with 5.6% of farms with \$1 million or more. Small farms rely on direct marketing, on-line presence, and ability to reach the 'farm-to-fork' audience.

Larger farms are becoming equally dependent on technology. Precision agriculture is data intensive and requires high-bandwidth connectivity. A [futurefarming.com](http://futurefarming.com) survey – "Internet speed hinders farm technology use in Canada" – found 93% of respondents felt precision agriculture was useful; three-quarters plan to expand their use of the technology in the future. However, according to the report, the biggest barrier to further technology adoption, after price, is internet infrastructure.

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### **Rural Environment**

Soil erosion is a significant challenge that is costing Canadian farmers more than \$3 billion a year, notwithstanding the efforts that have been made in soil conservation. University of Manitoba professor David Lobb says in 1971 farmers lost \$0.96 billion in 2016 dollars every year due to soil erosion. In 2011, he says, this had increased to \$3.18 billion, resulting in cumulative losses of between \$40 billion and \$60 billion. ["Cost of soil erosion \$3 billion annually in Canada." Chatham this Week. Tom Morrison. Feb 20, 2018.]

Continuous cropping and the use of agrochemicals have increased crop yields but also may impact long-term sustainability. Increased availability of hyper-local data coupled with improved data-mining and artificial intelligence will enhance each farmer's ability to make responsible decisions by better understanding of environmental processes at various scales, improving land stewardship.

### **Rural Community and Quality of Life**

In its 2017 report titled *Rural Broadband: Policy Recommendations for Improving Broadband Access & Adoption in Rural Alberta*, the Alberta Centre for Sustainable Communities at the University of Alberta advocated that "broadband should be considered a priority for community development and an important space for interaction and innovation."

A paper published in *American Behavioral Scientist* in 2010 summarized research indicating that internet usage can increase voluntary participation and create social networks in rural communities, building social capital. ("Do Rural Residents Really Use the Internet to Build Social Capital? An Empirical Investigation." Michael J. Stern and Alison E. Adams. *American Behavioral Scientist*. 53(9) 1389–1422.)

The authors assessed how residents in an isolated rural region of the western United States used online connections to maintain local social networks and learn about community events and organizations. They concluded Internet usage can play an important role in strengthening rural communities. Residents used the Internet both to learn about local events and groups (bonding) and to connect to interests outside the local area (bridging).

### **Rural Safety and Security**

Farms (and municipalities) are using larger and more advanced equipment. Their size and speed make them a hazard on public roads. As rural road traffic increases so does the accident rate. A 2016 study – "The effects of roadway characteristics on farm equipment crashes: a geographic information systems approach" – in the *Journal of Epidemiology* confirmed that "As traffic volume increased, the odds of a crash occurring also increased. Higher traffic volume, higher posted speed limits, road type, and smaller road widths were associated with the occurrence of farm equipment crashes."

Rural crime also is a growing problem. Western Canada has higher rural crime rates than the national average. Alberta, with 9,895 offenses per 100,000 residents, places third in the west. The Provincial Caucus on Crime Reduction in Saskatchewan (2017) reported that "there has been a relocation of... traditionally urban crime to increasingly rural areas. The result is that drugs, gangs and violent crime are more prevalent in rural parts of the Province." Rural residents feel criminals are becoming more brazen, better organized, and more brutal.

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### **Rural Connectivity**

Canada has recognized the importance of nationally available broadband. The CRTC has confirmed that, notwithstanding significant improvements, "many Canadians, particularly in rural and remote areas, do not have access to broadband Internet access services that are comparable to those offered to the vast majority of Canadians in terms of speed, capacity, quality, and price." In its Telecom Policy 2016-496, the CRTC said it "expects fixed broadband Internet access services... to be available in 90% of Canadian premises by the end of 2021, and in the remaining 10% of Canadian premises within 10 to 15 years. In communities where distance, geography, and limitations to existing technologies present challenges, the Commission expects that intermediate steps will be taken to progress towards these goals."

Service in our four regions is currently spotty and irregular. In a survey conducted for this project 93% of respondents rated cellular coverage as average-to-poor; 77.3% rated internet coverage as average-to-poor. Moreover, as part of this project Taylor Warwick confirmed that fully \$100.7M would be required to implement traditional connectivity across the four counties on par with urban Canada.

### **Meaningful Data Creation and Use**

Smart farming relies on new technologies like the Internet of Things, cloud computing, robotics, and artificial intelligence. Massive volumes of data are captured, analyzed, and used for decision-making. The global data economy is pegged at \$3 trillion - a rising trend that also is evident in agriculture.

Climate Corporation's Chief Science Officer estimates 70% of agricultural yield is related to what to plant, how to fertilize, and how to protect the crop. According to equipment manufacturer John Deere, self-guided systems now farm approximately 60% to 70% of the crop acreage in North America, 30% to 50% in Europe, and more than 90% in Australia.

Monsanto paid nearly \$1 billion dollars to acquire The Climate Corporation in 2013. There is a growing global market for tools that use Big Data to produce actionable insights.

In "A future internet collaboration platform for safe and healthy food from farm to fork" [Global Conference (SRII), 2014 Annual SRII, IEEE, San Jose, CA, USA (2014), pp. 266-273], Sjaak Wolfert and his co-authors identified five main challenges:

- Handling increasingly large amounts of data from all kinds of agricultural equipment
- Establishing interoperability between various systems at farm level and in the whole supply chain network surrounding the farm
- Standardizing data
- Going beyond the small scale and regional focus of farm software development
- Complying with national and regional differences in farming practices

Beside business players, many public institutions are promoting Big Data applications in farming by advocating for open data and data-driven innovation. Examples include the Big Data Coalition, Open Agriculture Data Alliance (OADA), and AgGateway. The US Department of Agriculture wants to use data created by connected farming equipment, drones, and satellites to enable precision agriculture for food security and sustainability.

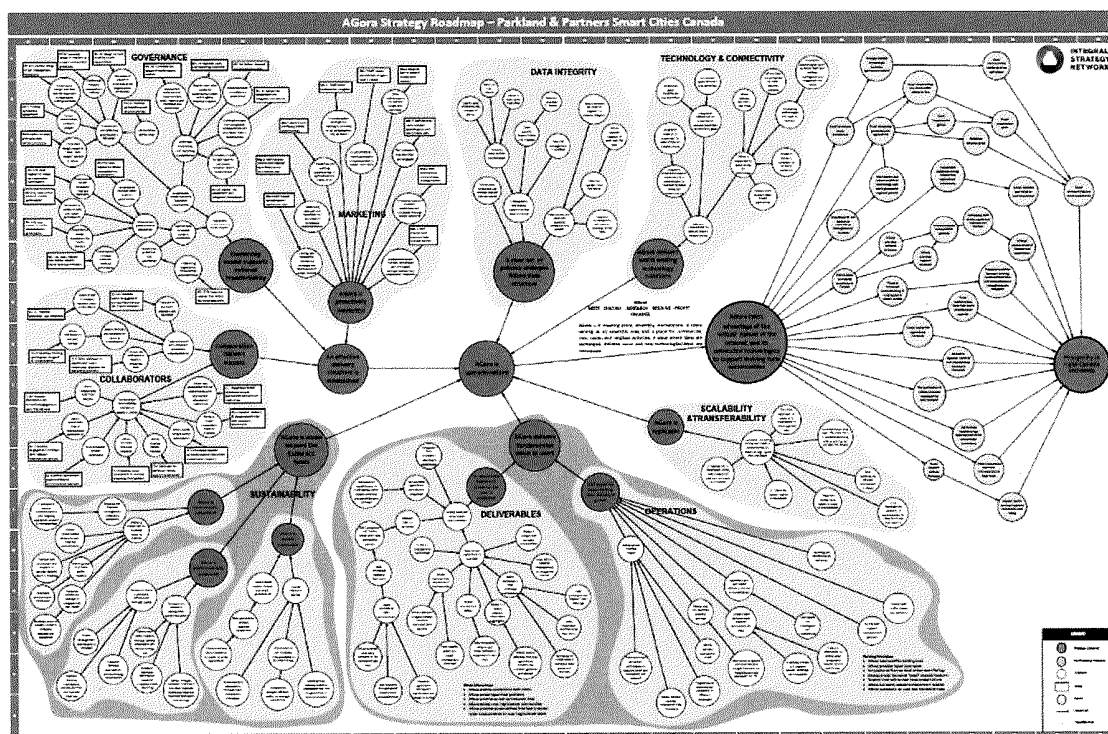
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#### 4. Sustained Progress During the Finalist Phase

The region commissioned an assessment of current communications infrastructure in the four counties during this finalist phase. This provided additional detailed information describing the quality of service, gaps in service provided, and the investment required to meet CRTC service standards. This will provide essential baseline information for setting priorities and developing an infrastructure strategy that will evolve to support this initiative.

Substantial progress also has been made to secure community participation and support. The Integral Strategy™ Roadmap development process involved key community stakeholders who have committed their continuing involvement to move this initiative forward. It has received broad support from other key stakeholders and potential partners, including all cities and towns in the region.

The design process we used focused on results. Collective intentions are described in the Strategy Roadmap we created. The map defines a clear strategic goal, the actions and outcomes required to achieve it, and ensuing benefits. It provides an ongoing framework for disciplined implementation, including priority-setting, assignment of accountability, risk management and performance measurement linked to key outcomes.



Major themes describe requirements to establish AGora (governance, collaborators and marketing); creating user value (deliverables and operations); delivering leading technology solutions (technology and connectivity); stewarding data assets (data integrity); ensuring AGora's continuing viability (sustainability); and replicating the innovations in other rural regions (scalability and transferability).

**The Roadmap delivered the framework used to develop the strategy described in this proposal.**

(<http://integralstrategy.net/wp-content/uploads/2019/03/ParklandStrategyRoadmap.pdf>)

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## 5. An Ambitious and Achievable Challenge

This is an ambitious initiative aimed at:

- Providing a new and trusted Canadian platform for innovation
- Incenting technology development and commercialization
- Enlisting early adopters to test promising new technologies
- Identifying opportunities to increase productivity and profitability in agriculture
- Strengthening rural communities, farms and businesses
- Delivering new models and technologies to enable rural connectivity

The outcomes are well aligned with the objective of the Smart Cities Challenge to improve the lives of residents in Canadian communities through innovation, data and connected technology. The initiative will improve the quality of life in rural communities and will encourage the next generation of Canadian farmers to continue farming without being disadvantaged by this lifestyle choice.

Notwithstanding the scope of this Challenge, we are committed to achieving it, following a disciplined approach. Objectives will be achieved through strong partnerships, broad community collaboration, sustained commitment over time, and the use of artificial intelligence and distributed technologies to protect the intellectual property of participants.

## 6. Guiding Principles

AGora will adopt the following principles as the base for corporate operation and growth. They speak to the values of the organization and will guide decision making and setting business priorities.

### ***Our conduct is honest, ethical, and responsible***

AGora will not only meet all applicable legal and regulatory requirements, it will operate in a clear, open, and transparent manner in support of the rural and agricultural sector.

### ***Value is created through partnerships***

AGora will seek to create greater value through partnerships, recognizing that partners bring unique strengths to initiatives that increase their likelihood of success.

### ***Data ownership delivers value***

AGora recognizes that data has become the new enterprise currency and should deliver value for its creators, curators, and users.

### ***Growth and innovation opportunities exist***

AGora will pursue opportunities for growth and innovation, recognizing that rural economies and agriculture will benefit from capitalizing on these opportunities.

### ***Successful development is based on knowledge, innovation and growth***

AGora is committed to catalyzing innovation in Canada that meets the needs of a rural economy and agricultural base that seeks to remain competitive, diversify and grow.

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***Equitable access is fundamental to future opportunity***

AGora will strive to deliver region-wide access to connectivity that is competitive with that in urban areas and transferrable to other rural communities across Canada.

***First Nation involvement supports success***

AGora recognizes that reconciliation and strong, sustainable communities will be achieved through long term engagement with First Nations and being respectful stewards of the lands we all reside on.

***Customer service is key***

AGora recognizes that its success depends on sustaining a culture that embraces excellence, integrity, accountability, and service to all clients in the four counties and beyond.

***Data sovereignty and data trust are paramount***

AGora recognizes the importance in the post-Cambridge Analytica era of deploying technology solutions that create a fair balance of power and control between those who produce the data (citizens and farmers) and those who manage the infrastructure or processes and use the data.

**7. A Model that is Transferable, Replicable, and Scalable**

It is a long-term objective of the Smart Cities Challenge that the investment Canada makes in this region can be replicated, modelled and transferred to other areas of the nation. Canada has advised that the funding provided should enable full national roll-out. AGora will demonstrate national scalability, transferability and replicability, anticipating that funding for implementation will come through other avenues.

**The Organizational Model**

The not-for-profit model used to establish and govern AGora will provide full financial accountability and transparency. Details of the model will be fully available to other rural regions that wish to participate with or emulate its services and design. In much the same way that this project leaned on the good works of existing entities like TECTERRA to help with key design elements, AGora will provide similar support to other interested parties.

**Connectivity Solutions**

Rural Canada is disadvantaged by poor internet access and speed compared to that enjoyed in urban areas. AGora will conduct pilot projects to determine how existing infrastructure can be twinned with new communications technologies to fundamentally re-structure ICT deployment and service delivery in rural areas and will assess the feasibility of achieving target service levels identified by the CRTC.

The 4 Counties have been broadband leaders since 2009, and have created some of the largest municipally owned infrastructure projects in Western Canada. They continually share best practices.

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### **The AGora Platform**

AGora's technology platform will be a web based, GIS enabled, Data Trust platform. It will be designed and architected to transfer, scale and extend to other geographic areas. The platform will enable data analytics, host applications and protect data through the Data Trust. AGora will create a feature rich library of products and services focused on solving hyper-local Agricultural problems.

### **Commercialization of Innovations**

We contemplate a long-term and healthy relationship with the private sector. Private sector participation is critical to bring state-of-the-art technologies, broader skills and diverse applications to rural innovation. We expect many of the tools that are developed in AGora will be patented and commercialized through private sector participation. National and international replication and dissemination will take place through assertive profit-oriented companies.

### **An Innovation Transfer Program**

AGora will establish a program to transfer innovations created in this region to other rural communities. This will include experience with its structure and governance model, values, operating principles, partnering approach, and community engagement processes. It will seek to establish relationships with other communities.

### **Extension to Other Rural Sectors**

This proposal will create benefits for the agriculture sector and population in the four counties. The region also includes mining, oil and gas, tourism, and forestry. Implementation will improve connectivity and will create a model and technology enablement that can be extended to other sectors. Ultimately, this could include all sectors of Canada's rural economy throughout the country.

### **Ongoing Assessment**

AGora will include ongoing assessment of the effectiveness of these approaches, to improve them and identify new opportunities to transfer findings from AGora to other regions. Its AI-backed and secure performance management systems will allow both project benefits and wider economic and social multipliers to be tracked and reported on.

## **8. Reasons to Select Our Proposal**

Our proposal is strong in a number of essential respects – location, enabling conditions, technology design, and the rigor of our approach.

### **8.1. Location**

The region represented by our four counties is ideally suited for this initiative. The site is a natural test bed to prove and develop solutions that can be deployed in other rural regions:

- There is a wide range of agricultural products, processing, and global marketing efforts in the region, and a small investment would deliver significant innovation, economic and public benefits
- Key rural economies are represented: forestry, oil and gas, mining and tourism

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- Agriculture is diverse, ranging in size from large to small, including farms and ranches, and profitable and less profitable operations
- Connectivity is highly varied, with many dark spots
- The terrain presents a variety of communication challenges

The region also is close to a major urban centre – Edmonton. This proximity offers:

- A connection point for high-speed internet access
- Recognized leaders in artificial intelligence (leading city for pan-Canadian artificial intelligence strategy)
- Opportunities to establish creative agri-food partnerships for technology innovation
- A test bed to develop new rural-urban connections and market opportunities

## 8.2. Enabling Conditions

The following conditions support delivery and adoption.

### ***Local Farmers are Aware of the Need for Change***

Farmers are increasingly aware of data-driven agriculture, and the impact this will have on their lives, their ability to make decisions, and the way in which they produce, transport, and sell their goods.

### ***Some Connectivity Already is in Place***

A base level of connectivity exists in some parts of the region. This provides a base to build from. In the first phase of implementation AGora will seek to connect early adopters.

### ***There is a Global need for Innovation in Agriculture***

In expert hands, data is intelligence. Hyper-local data is a valuable resource for planning and decision-making. It enables innovation in food production and security, transportation, and waste management. It supports applications that improve farm productivity and profitability.

### ***Progress is Being Made in Data-Driven Farming***

Agriculture focused companies are developing increasingly complex and data hungry systems to support farm/crop and livestock operations. Many are seeking the next generation of improvements based on hyper-local data that enables a site-specific response.

### ***Partners Have Come Forward***

We have sought and confirmed interest from potential private sector and academic partners. These partners will enable initiatives across the full research, development, and commercialization spectrum. More work will be done in the first phase of implementation to confirm roles, responsibilities and funding, but a base is already in place. Partners are willing to bring matching money to the table.

### ***Early Adopters Have Been Identified***

Early adopter farmers and businesses have been identified. Eighteen farmers and business leaders from the four counties have agreed in principle to participate. More work will be done in the first phase of implementation to select those who are most capable, best located, and most appropriate for the initial development projects.

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## Technology Design

Deployment of AGora's digital data trust platform will deliver a data exchange system that enables control and sovereignty of data assets. This will help data producers and consumers reap the rewards and value from these data assets, create a pipeline of next-generation products and services, broaden job opportunities, and accelerate economic prosperity and inclusion, while solving real-world farm management and community problems.

### 8.3. The Rigor of Our Approach

The stakeholder engagement, strategic design process, and definition of an outcome-focused roadmap for implementation, has been fundamental to our approach. This delivers a plan that can be implemented across organization, system, sector and community boundaries. Through the participation of key stakeholders, the strategic direction for collective action to address the following "wicked problem" has been developed:

*Deliver decision-making tools, informed by hyper-local data and connectivity solutions, that benefit residents that, in turn, improves Canada's food production and distribution system, enhances rural safety and security, incents young families to become life-long farm operators, and, when fully implemented, increases the prosperity of rural Canada.*

Our proposal defines a common purpose, including contributions from diverse stakeholders, the corporate structure needed to deliver this strategy, a clear path forward based on specific deliverables and outcome, and a method to link costs to the desired outcomes. We undertook three parallel initiatives in this phase of work to confirm existing connectivity in the region and an infrastructure strategy to move forward; further detailing of the family of products, partnerships, and services to be established under AGora's innovation mandate; and ongoing public engagement to identify priority needs and public interest in the work to follow.

When brought together this delivered an integrated plan to create the structure, oversight, partnership, and innovation model required to meet the design expectations of the Smart Cities Challenge. We have not taken this lightly, as we understand both the challenges ahead for Canada's rural economies, and the huge impact that connectivity, data, and new tools for decision-making can have on its future.

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## 9. Our Promise to Canada - What we will create

AGora is singularly focused on creating a rural innovation incubator that will design and deliver the three key elements to achieve the Vision it set for itself in the original Smart Cities Challenge. It will:

1. Define, establish and operationalize a number of Internet of Things based Farm Area Network pilots to take advantage of the interconnected technologies currently available. AGora will establish a Data Trust to collect, store, manage and add value to the data collected through these networks. This will enable farmers, and all rural residents, to improve their operations and to monetize data.
2. Research, define and establish a number of key agricultural-focused Innovation Labs to work with the private sector and academia to deliver new products and services to local farmers, producers and residents through the AGora Data Provider Network, the AGora Farm Area Network and the Geographic Information Systems (GIS), and other technologies, established within AGora.
3. Conduct a number of pilot projects to deliver a fundamentally different means to provide ubiquitous, competitively priced broadband service to rural residents. AGora will test a new Data Provider Model, working with other providers already servicing rural clients through electricity and natural gas distribution systems.

Accomplishing these initiatives will fulfill the goals we set for ourselves and support a growing and prosperous rural economy.

### A bright future for rural Canada

*"Newlyweds Steve and Julie and their growing family just moved back home to take over Julie's family farm. Several of AGora's programs are in place, and the future of farming looks bright. AGora's stable of products are capturing highly relevant data from the family farm, integrating it with specialized applications and are improving decision making. Profitability is up - both from improved farm operations and from the collection and use of the farm's data in ways that benefit the family farm.*

*Steve and Julie also have been able to relocate and expand the media business they built while living in the city. AGora pilots have proved out, and real time, state-of-the-art connectivity is available throughout the region.*

*These fundamental changes made farming a more attractive lifestyle choice for Steve and Julie. This vision of the future helped them decide that the time was right to buy out Julie's parents and enjoy living in a connected rural Alberta. "*

## 10. Our Promise to Canada – How Value will Flow

We will create value in four streams of action (Value Streams):

1. We will establish and build AGora, as outlined in the "Building AGora" Value Stream.
2. The "Farm Focused Technology" Value Stream will deliver on-farm communication capabilities.
3. The "SMART Information Management & Technology" Value Stream identifies cross functional requirements to establish and maintain the systems that will underpin AGora, including Data Trust and data oversight, as well as architecture design requirements.
4. The final Value Stream – "Connecting People, Technologies and Farms" lays out specifics on how community engagement and understanding will be achieved.

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# ENGAGEMENT

Implementing change is difficult, and engaging residents and stakeholders is crucial in obtaining and maintaining their support. This plan describes how *AGora* has engaged communities and businesses to build the proposal and how it will sustain community engagement throughout implementation

## 1. Community Engagement To-Date

Parkland County held discussions with representatives from the neighboring three counties initially, to inform them of the Smart Cities Challenge, identify requirements, and confirm commitment to create a regional coalition representing nearly 62,000 people.

Farm and business leaders from the four counties were engaged from the start to develop this proposal. These leaders reflected the diverse nature of the region, including farming, ranching, small business, and residential interests. A steering committee was established to oversee the wider community consultation process and provide input to develop our initial application.

Community focus groups provided information on the adequacy key priorities, and next steps. Participants were invited to contribute ideas used to define the challenge. This engagement included agricultural development boards and members of the broader community. In-person interviews were conducted with local officials and other community members.

Common themes emerged that were used to articulate our Challenge and define the key outcomes through which it will be achieved. All four counties formally endorsed the shared vision.

### 1.1. Preparing This Implementation Plan

Our commitment to community consultation has remained a key focus in this subsequent phase of work. The engagement process was expanded to inform preparation of this detailed implementation plan. The community steering committee provided continuing oversight.

#### *The Design Team*

A Design Team of 20 individuals – including steering committee members, other participants from the region, representatives of the provincial and federal government, and sector experts – participated in developing a comprehensive Strategy Roadmap. The Design Team also helped to answer the following fundamental questions:

- Attributes of *AGora* that will incent farmers to participate
- Key features of the innovation incubator that are most important for rural residents
- Pressing connectivity challenges that need be resolved to help maintain rural competitiveness and connection to the on-line economy
- High-level design of the incubator, including structure, staffing, relationship to sponsoring agencies, and the role of the private sector

The resulting Roadmap identifies the strategic goal, the outcomes necessary to achieve it, required actions, and resulting positive impacts and benefits for the region. The completed Roadmap was presented at a regional open house on February 5, 2019, where community members and civic leaders had the opportunity to review and provide feedback on the results.

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### ***Community Dialogue***

A community engagement process was conducted in parallel with the work of the Design Team. Community members from across the four counties were consulted to obtain input on requirements and delivery priorities, and criteria for a future-focused marketing plan to build community understanding of *AGora* during implementation. This dialogue helped identify early adopter farmers and businesses that are prepared and well-suited to be first-to-market with this approach. This included the following activities:

- Communication through a website, social media, and email lists
- One-on-one meetings, phone calls and written correspondence with community stakeholders including primary producers and food makers
- Workshops using Lego Serious play method to gather community aspirations and concerns
- An online survey for agriculture and community stakeholders

### ***Consultation with the Four Counties***

Significant consultation took place with other municipalities that exist within the four counties. This recognized the intrinsic linkages between these communities and their adjacent rural constituents. Many producers and people with rural businesses live in these communities and work on the farm. *AGora* services and technologies will have to link to these communities.

Stony Plain, Spruce Grove, Drayton Valley, Hinton and Edson were briefed on the project and invited to support the initiative. Each has done so. This consultation ensured full commitment of the region to participate in achieving success.

### ***First Nation Discussions***

The proponents engaged Enoch Cree First Nation and Paul First Nation as future collaborative partners and have received letters of support from both Nations' Chiefs. *AGora* has several agriculture areas that will support goals of partnering with the Nations in areas such as food security, education, technology and connectivity and job creation.

## **2. Insights Gained That Have Shaped Our Final Proposal**

Community outreach efforts involved focus groups, an online survey, on line postings and one-on-one meetings. Over 800 unique visits were made to our website to become informed on the project. 140 links were provided to the survey to gather input – 77 responses were received. Over two dozen meetings were held with individuals to discuss the final proposal that informed its final design. Outreach has been extensive and significant.

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### Insights from Community Consultation

An on-line survey was developed to invite participation and input. Respondents described success as (1) ensuring consumers, particularly Albertans, are aware that food produced by Alberta farmers is safe; (2) ensuring financial sustainability of farms; and (3) adopting technology to advance business.

#### Reasons for Participating

When participants were asked "What would you most like to achieve by participating in the activities of the Agriculture Innovation Living Lab?" the most important reasons for participating were to share input to help develop solutions, gain early access to innovations, and lever these innovations to strengthen their business. The least important reason for participating was to get reduced pricing for being an early adopter.

It appears that contributing and receiving information that will advance their business outweighs the cost associated with accessing that information. This will be important for the sales strategy and marketing material of AGora products in the future. The adjoining quotes provide context and are drawn from survey responses.

#### Connectors and Champions

Participants in the online survey were asked to list where they access expertise to improve their operations. They could choose from people pre-populated by others in the survey or they could list additional people.

Analysis of these relationships identified groups and key stakeholders in the social network. We asked participants to identify who they have collaborated with and who they want to collaborate with, to indicate cohesion; and who they think are experts and where they get innovative ideas from, and to indicate influence.

Nine groupings of people were identified who are connected to each other through people they feel are experts. Many of the respondents who answered this question listed one person or a few that they go to for expertise. These individuals in the community are already seen as experts and could be utilized as Community Champions in future work.

There is an opportunity for AGora to provide partnership connector services and broker collaborations that may not otherwise happen. A first step for quick wins will be to identify triads in the network map that can be closed. By closing an open triad, a closure with four points of connection is created, fostering network-building and innovation.

*"Albertans are aware of how safe, responsible, available, and wonderful our home-grown ag products are. Further, Albertans with an interest in agriculture are able to connect directly to our producers, enabling communication, collaboration, and innovation."*

*"The consuming public accepts that the products we produce are safe and produced sustainably, not only environmental but also economic."*

*"Have our companies grown from start-up to the next level of their business growth and have the middle ones grown to their next level? Have they introduced new innovations in product development, technology and food safety? Have they gained access to market?"*

*"Less silos, more working together."*

*"I track all my expenses, making constant alterations to my plans. I am an entrepreneur I will never truly feel successful and do not want to, because if I did then I would stop driving ideas."*

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### 3. Community Representation in AGora

Community input was fundamental to helping define ongoing community participation.

#### **AGora Board of Directors and Committees**

The Board of Directors will be drawn from the Design Team that delivered the strategic plan, municipal representatives and private sector, academic and other levels of government. It will include farm, business and municipal representatives, and others from the region. The role and structure of the Board is described in the GOVERNANCE chapter. Core members have already been recruited.

#### **Partners from the Four Counties**

The public engagement process confirmed the roles of existing service providers (agriculture service boards, local non-profits, three levels of government), and academic leaders. Core participants have been recruited. The nucleus for delivery across the four counties is in place. Further work will confirm levels of participation, define clear needs to be met through AGora delivery and establish any legal frameworks required to support system deployment.

#### **Early Adopters**

Farm and business leaders from the four counties have been engaged from the beginning. Early adopters have been identified from this group to lead implementation. A core group of early adopters will help deliver pilots to improve rural connectivity and be a test-bed for agricultural innovation.

Early adopters will help to identify new ways of connecting rural areas, collecting hyper-local data, and developing tools for on-farm decision making. They will provide access to their farm operations, and support for technology developers using the AGora platform. The “Connecting Peoples” Working Group is fully described in the GOVERNANCE chapter of the proposal.

### 4. Engagement with Community Stakeholders

Ongoing community engagement will enable the proponent to make sound decisions about the future of AGora; educate community members about the challenge; inspire confidence in local decision-making; maximize awareness and support for the project once it is launched; and facilitate wise and enlightened project development. One primary on-going activity of AGora will be to create opportunities for stakeholders to become better informed.

The “Connecting Peoples” Working Group described in the GOVERNANCE chapter will provide accountability and leadership to AGora’s Board on stakeholder engagement, and will identify innovative and evidence-based strategies, techniques, or tools that could be used to sustain stakeholder engagement. The Stakeholder Engagement Plan that will be delivered will ensure two-way communications between AGora and stakeholders remains effective, relevant, and efficient.

AGora staff will be responsible for implementing the engagement tactics and activities, and for undertaking regular and on-going monitoring.

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## Engagement Activities

The implementation phase (Phase 1) will be important and intense, underpinned by significant consultation. We will not only educate community stakeholders about the project, we will develop excitement about the future of *AGora* and its goal of increasing prosperity in rural Canada. We will work directly with the community. Initial engagement will finalize the vision for *AGora*, expressed as a brand and brand promise, confirming the guiding principles for the *AGora* platform, and establishing partnerships to carry the initiative forward. We will involve the public and key stakeholders in:

- Sharing collective aspirations
- Gathering stakeholder input
- Ranking project opportunities
- Ongoing education and information sharing

Engagement will achieve the following outcomes:

- Stakeholders are satisfied with every interaction they have with *AGora*
- The Board of Directors is proactive in seeking information from stakeholders, and is well informed on stakeholder needs and wants
- There is consistency in how stakeholder engagement is conducted and how information is used and reported back
- Stakeholders are recognized for their contributions, and have a real and tangible influence in the direction of *AGora*
- Organizational succession planning is informed and intuitive with a pool of engaged stakeholders

## Engagement Tools and Approaches

A variety of engagement tools will be used by *AGora*, including a dedicated website, social media, blogs, electronic newsletters, and traditional media.

The website will be intuitive and responsive, designed and written in plain language so it is easy to understand. It will be accessible in alternative formats and will enable feedback through online questionnaires. The site will link to reports, newsletters, event information, community contributed content, and project communication. An email sign-up function will collect user emails for future engagement and information sharing.

Social media accounts will be created on platforms like Twitter, Facebook and Instagram. These profiles will be regularly maintained, will be engaging, and will have analytics tracking. The goal will be to create an online community of users that can be converted to *AGora* customers using calls to action. Primary producers will be engaged on Twitter using hashtags like #agchat and #cdnpoli.

Use of traditional media will include radio, TV, and newspapers – with columns in newspapers and the *Western Producer*, and spots on the agriculture radio show *Call of the Land*.

*AGora* will establish extensive connections to people in the region. A community leader database and network mapping tool will help staff planning engagement initiatives to build relationships, invite input from, and engage with people to ensure diverse representation and ongoing inclusion. Team members will engage with stakeholders on an ongoing basis by phone, email, mail and at in-person meetings.

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## Monitoring and Reporting Results

Stakeholder engagement is only useful when it meets its objectives. Engagement activities, feedback, and the success of engagement efforts will be monitored against the objectives described above.

Monitoring will be based on:

- Tracking engagement points, including who attends consultation events, contributes to content creation, identifies an early adopter, participates in prototype projects, visits the website, provides comments, and participates in surveys
- Asking participants to provide feedback on how they feel about being involved in *AGora's* design
- Using in-person and online surveys to determine which engagement activities are useful, fun, informative, and effective for participants
- Internal evaluation of engagement activities by staff and consulting teams, reflecting on the engagement activities at strategic checkpoints in a project: Did we meet our engagement objectives? What did we do well? What could have been better? What will we do differently next time?

Regular reporting of activities, successes, failures, and opportunities will be reported to the community to ensure *AGora* remains relevant and that new stakeholders have ways of knowing and engaging. Once *AGora* is operational, the benefits it enables will be seen by others, attracting wider participation. As other farmers and businesses join, a larger regional test-bed will be created. Deployment to new users will extend regional connectivity and enrich the hyper-local database. Expansion of the infrastructure and information base will be coordinated thorough *AGora*, attracting new private sector participants to its innovation platform.

## 5. Recruitment and Involvement of *AGora* Partners

A variety of partnerships will be established in *AGora*. The GOVERNANCE chapter describes the roles and contributions of each type. The Communications and Engagement Plan commissioned through this initiative (Kumpula Design, 2019) provides a plan of action for recruiting and training these partners.

Technology partners will be central to *AGora's* success. *AGora* will provide the infrastructure required to develop and deliver products designed to meet specific needs of the farm and business community. Each solution will be created in partnership with one or more private or academic partners. Letters of interest are included in an appendix to the proposal.

We have been successful in obtaining commitments from a large number of municipal, government, academic and technology providers through formal **Letters of Support**.

While relationships have not been concluded, they have all expressed their excitement about this proposal and the chance to work with us to realize its compelling vision.

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Summary of Letters of Support and Expressions of Interest Received			
Mayor of Parkland County	Leteta Farms	Town of Edson	Connect Mobility
Service Alberta, Asst Deputy Minister	Brian Olafson	Town of Stony Plain	AB Centre for Sustainable Rural Communities
Minister of AB Agriculture and Forestry	Telus Communications	Village of Wabamun	Parkland Ag Services Board
Minister of AB Economic Development	University of Alberta - Faculty of Science	GROWTH, Regional Economic Dev.	Edmonton Metropolitan Region Board
Chief Morin, Enoch Cree Nation	Yellowhead County	Acheson Business Association	3C Information Systems Inc.
Chief Rain, Paul First Nation	Brazeau County	ATS Traffic	Cybera Inc.
Sightline Innovation Inc.	Lac Ste. Anne County	Stony Plain MLA	EQUUS REA Ltd.
John Knapp	Parkland GIS	ISP Computers	ATCO Gas
Alberta Machine Intelligence Institute	West Central Forage Association	Brandon University, Rural Dev Institute	IBM Research & Development Centre
TECTERRA	Parkland Ag Services	Crop Pro Consulting	Ventus Development
ESRI Canada	City of Spruce Grove	FortisAlberta	Dell
Northern Alberta Institute of Technology	Spruce Grove Chamber of Commerce	Comtech Communications	Utility Network & Partners Inc.
Bell Mobility	Town of Hinton	Zayo Canada Inc.	Integral Strategy Network Inc.
ATB Financial	Town of Drayton Valley	Frank Robinson	

Most significantly, *AGora* has secured support from Sightline Innovation Inc., a Canadian IA solution and Data Trust provider. Sightline's support includes participation as a technology provider and manager of the data trust infrastructure. Sightline's suite of technologies and R&D activities will provide state-of-the-art data protection, data management, curation, and machine learning products to inform farm decision making, processing, and market entry. Equally important, its technologies will provide a means by which data collected from farm and business operations would be monetized and deliver value. Refer to the DATA AND PRIVACY and TECHNOLOGY chapters and the CONFIDENTIAL annex for full details.

## 6. Engagement Within Projects

Community involvement is designed into *AGora*'s delivery process. *AGora* will establish and leverage participation of local experts, partners and stakeholders. The following structure supports implementation of the four Value Streams, as described in the PROJECT MANAGEMENT chapter.

A core staff of *AGora* employees will provide the foundation for the implementation engine. They will take leadership roles to move *AGora*'s Value Streams forward and work directly with community participants through defined Working Groups. These Working Groups will include local stakeholders, partner representatives, subject matter experts, and volunteers, and will help understand, focus, and identify near-term objectives and priority outcomes. See GOVERNANCE chapter for full details.

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One responsibility of the Working Groups will be to define work plans that will be reviewed, prioritized, and funded by the AGora Board. Once approved, teams will be established to implement the solutions. The Working Groups will oversee the progress of the projects they have submitted.

The intention is to encourage participation on project delivery and wide attendance at community events where AGora initiatives are discussed. The Community Engagement Value Stream will ensure people in the community are informed, can propose or champion initiatives, and contribute to any of the Value Streams based on their skills and interests. This will lever the collective intelligence of the community, build internal initiatives through the partner and vendor network, and ensure initiatives are grounded in community needs. External initiatives brought forth by the community, that deliver value and achieve outcomes, will be a testament to a successful change program.

## 7. First Nations Engagement

In forming this final application, the proponents engaged Enoch Cree First Nation and Paul First Nation as future partners and have received letters of support from both Nations' Chiefs. AGora has several agriculture areas that will support goals of partnering with all Nations in the region in areas such as food security, education, technology and connectivity and job creation.

AGora will be committed to meaningful indigenous engagement. It will seek to establish a strong relationship and build trust between the project and indigenous stakeholders, based on:

- Developing a wholistic understanding of the communities, by conducting or compiling research including the history of the community, environmental concerns, fishing, hunting, and gathering activities, spiritual practices, governance, tribal council affiliations, decision making structure, role of leaders and elders, identification of elders, community priorities, socio-economic situation, relationship with counties, and relationship with any previous project proponents.
- Respecting the ongoing impacts of colonialism, the history the community has with the land around them, and cultural differences.

Upon award of the Smart Cities Challenge prize, we will extend our engagement to all Indigenous communities in our region and the urban Indigenous community in neighbouring towns and cities.

## 8. Diversity, Equity and Inclusion

Significant effort has been made be inclusive and consider the diversity of residents, including identifying how specific groups can be involved in delivery. Ensuring equity requires understanding who is currently being engaged and developing strategies to engage other populations. Review and analysis of participation in engagement activities is critical. Historically, affluent white males tend to be the main participants in traditional engagement activities. Being aware of this and employing strategies such as those listed herein will ensure equity in stakeholder participation.

AGora will use human-centred design concepts such as place-based engagement, where the engagement team goes to stakeholders rather than expecting stakeholders to come to them. It is known that this type of engagement increases diversity and allows for engagement of different population groups that wouldn't traditionally participate in community engagement activities. Another

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example is the use of prototypes and community design review workshops where stakeholders are asked to provide feedback. This will engage a broader population.

AGora will conduct community based participatory research on its own or in partnership with post-secondary institutions. This will engage with those most affected by a challenge or issue to support research and analysis and identify strategies to address the challenge.

### **Engaging Youth**

Engaging youth in municipal activities is typically challenging and has seen limited success. Youth engagement initiatives proposed for AGora include:

- Working with 4H groups, local secondary and post-secondary schools and using existing makerspaces and hackathons to engage with students to create and collaborate on projects.
- Pairing students with partner companies in technology, media, or agri-food, as mentors, or sponsors of internships or work placements.
- Involving youth in video production to be used in AGora or for future consultation events.

### **Community Outreach Activities**

To obtain community input from people who don't typically get involved in these types of consultations, we also will pursue other outreach activities:

- Engaging in conversations where project team members visit coffee shops where farmers and community members gather, randomly buying people coffee and sitting down to engage in a brief 5- to 10-minute conversation about AGora. This technique will be used at strategically selected times through implementation.
- Using network mapping to identify people in the community who have strengths and expertise to share, and others who are looking to improve their capacity in a particular area. By identifying and engaging these groups, AGora will help to establish peer networks that bring new ideas and engagement from people and organizations that may not typically engage with each other. This also will assist in obtaining input from the 'silent majority.'

In summary, it is critical to understand problems and opportunities by working directly with the affected population or stakeholder groups to develop options rather than working on solutions for them in isolation. Otherwise, it is difficult to fully understand the challenges these groups face and define the opportunities to overcome them. AGora will evaluate options based on the feedback received from diverse populations and will ensure consideration is given to how the plan will benefit other population groups, particularly the most vulnerable.

### **Workforce Training**

Through the "Connecting Peoples" Working Group AGora will develop a training plan for users, operational staff, partners, and customers. This training will use the most appropriate and advanced technology for delivery. There are some excellent training firms in the region.

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## 9. Risks and Mitigations

AGora's proposed corporate structure inherently manages risk – duties, structure, planning processes, policies, regulations and overall accountability processes both assign responsibility and contain risk. The GOVERNANCE chapter fully articulates roles relative to how public engagement will be managed, deployed and delivered.

### ***Managing Community Expectations***

Risk - Unrealistic expectations of residents that all ideas and suggestions will be implemented.

Mitigations - Communicate levels of ambition when planning and initiating stakeholder engagement. Ensure the process is fully explained and that stakeholders are clear about the decisions and approaches being taken. Inform and involve key community members in implementation.

### ***Lack of Follow Through***

Risk - The community does not see follow through related to outcomes of the engagement process and lose faith in the process or the project.

Mitigations - Ensure actions, even if small, are implemented in a timely manner after engagement with stakeholders. Before engaging, ensure that appropriate resources are allocated and that implementation plans are achievable. Communicate with stakeholders when decisions are made on what will be implemented.

### ***Lack of Representation and Inclusiveness***

Risk - Some people or groups may lack the time, confidence, mobility, language skills, or ability to contribute equitably. Vocal and organized groups may be more active, which leads to unrepresentative participation.

Mitigations - Determine the level of representation and input that is practical and achievable given the resources and timeframe. Use existing networks, and community champions to encourage participation. Use appropriate engagement methods at the right time and in the right place. Ensure engagement events are accessible and that they are culturally appropriate for a range of participants. Tailor engagement activities for different stakeholder groups.

### ***Over-Engagement***

Risk – Over-engagement is non-productive. This may lead to consultation fatigue and cause community members to become antagonistic or cynical.

Mitigations – Where relevant, use the results of previous engagement processes that have worked. Ensure engagement activities are meaningful and create clear outcomes. Focus engagement activities on stakeholder groups whose ideas, needs, and concerns are less understood than those whose perspective is already well known.

**Negative Input**

Risk - Community members may be overly negative toward the project due to other frustrations with the municipality, based on previous or current engagements.

Mitigations - Focus on future-forward conversations. Listen to stakeholders and acknowledge past experiences. Use engagement methods that are appropriate for the desired outcome. For example, avoid an open house when there is already known anger or extreme controversy.

**Lack of Interest in Participating**

Risk - Many municipalities have challenges getting participation and have become reluctant to spend resources on engagement processes.

Mitigations - Spend adequate time identifying stakeholders and ways of involving them that is appropriate for the desired outcome. Ask stakeholders how they would like to be engaged. Ensure activities are fun, social, and held at a time of day and location that is convenient. Identify Hubs in the community where people naturally gather and engage with them there. Be clear about the levels of ambition, ensure stakeholders know the influence they can have. Ensure feedback is provided to people about how their input is reflected in a project.

**Managing Unintended Impacts**

Risk – A project has unforeseen adverse consequences.

Mitigations - Clarify the challenge to ensure engagement efforts result in more sustainable solutions and avoid adding to the problem. Involve various population groups prior to developing solutions to understand the impact on each population group and identify the solution with the least negative impacts on stakeholders. Ensure transparency of communications so, when unintended impacts occur, stakeholders are informed and can participate in managing the outcome. Build and promote relationships with stakeholders to establish trust and reduce uncertainty among population groups. Ensure stakeholders including staff have access to resources and knowledge for project management and stakeholder relationship management.

**Dealing with Unanticipated and Emergent Issues**

Risk – Stakeholders react negatively to unanticipated and emergent issues.

Mitigations - Manage stakeholder expectations to assist in dealing with and overcoming issues. Build meaningful dialogue with stakeholders about the issues of interest in the project. Communicate with stakeholders early and often and create the opportunity for stakeholder engagement when issues arise to ensure community participation in solutions. Regularly monitor the stakeholder group against the project maturity, realizing that the group may change depending on project activities.

# TECHNOLOGY

Connected technologies and data sovereignty are the core of this Smart Cities proposal. The following sections outline key technologies that will be put in place to deliver hyper-local data collection needed to derive value from connected technologies, deliver the enabling pilots necessary to better link farms to the world, and enable software to be created to support focused decision making. Creation of the necessary technologies to collect, manage and monetize farm data – a new crop – delivers new revenues in support of increased rural prosperity. Deployment of rural-focused software ‘labs’ supports rural innovation and delivers superior decision-making tools to all.

## 1. A Catalyst for Innovation

The diagram on the following page broadly describes how access to hyper-local data will be enabled across the four-counties; how it will be managed, curated and monetized; and how the various elements will be delivered.

## 2. The Technology Environment

To enable digital innovation, *AGora* will design and deploy technology that includes internet connectivity and farm area networks, underpinned by *AGora* technology and Data Trust platforms.

### **Internet Connectivity**

Connectivity and capacity are significant communication barriers in the region due to the large geography and relatively small size of the rural market. This is a fundamental challenge that has predicated most of the activity in the four counties and much of this proposal. Traditional service providers have been reluctant to invest. *AGora* will undertake competitive pilots with non-traditional service providers to test and evaluate new connectivity solutions.

### **Farm Area Networks (FANs)**

*AGora* will test the ability to collect hyper-local data at the farm level. Farm Area Networks will disperse connectivity over 10- to 20-acre plots, configured based on each farm’s layout, orientation and structure. *AGora* will deliver pilots to define acceptable technical performance criteria for Internet of Things deployment.

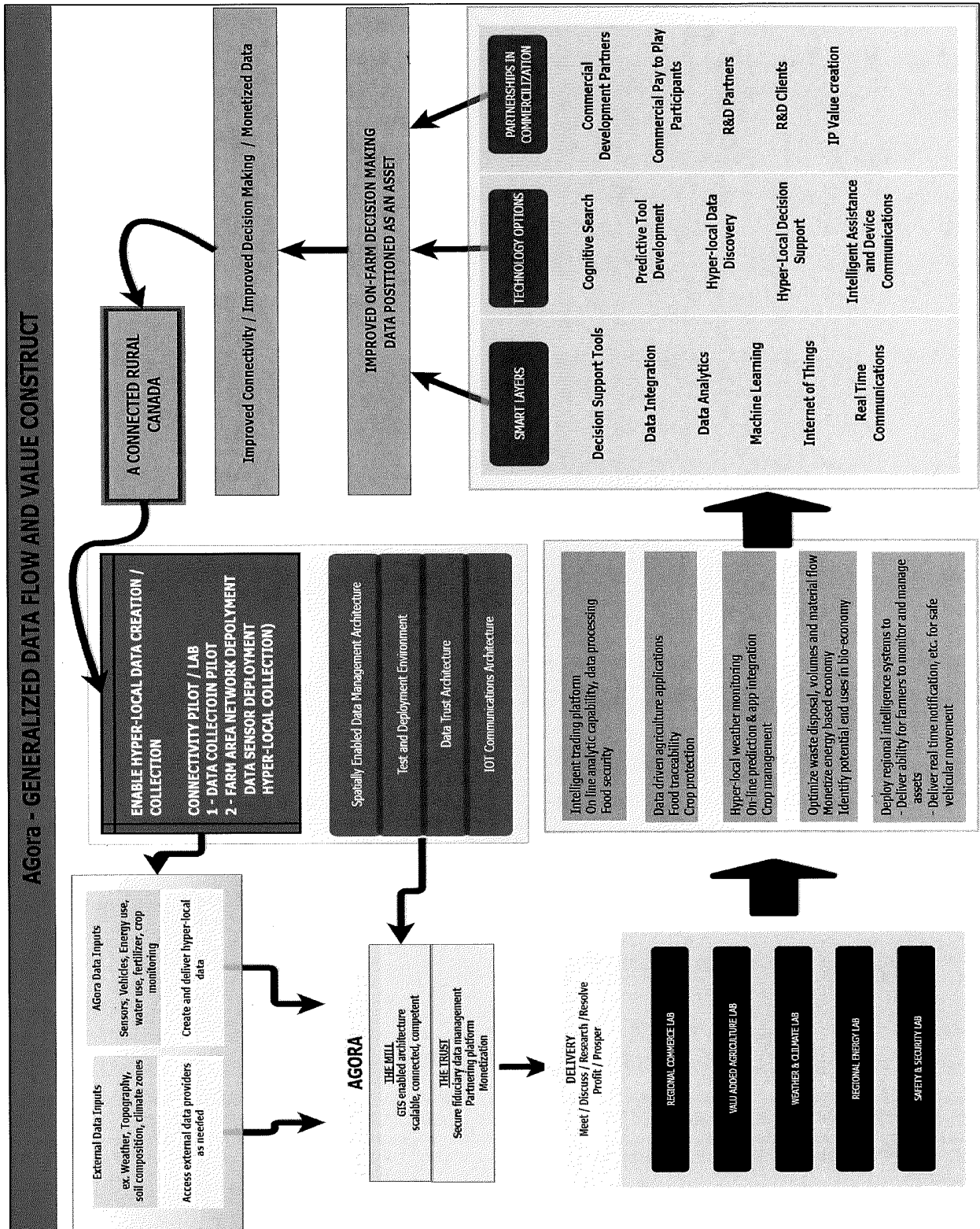
Farm Area Networks will support agricultural sensors deployed to monitor farm operations and develop solutions to increase farm productivity and profitability. *AGora* will establish a foundational Internet of Things infrastructure for baseline data collection; this will be expanded with additional sensors, as new applications are tested and deployed.

*AGora* will provide value to data providers, *AGora* itself, academia, and the private sector through a series of Innovation Labs dedicated to data analytics, software design and infrastructure development.

The Labs will pilot new communications technologies and will incent participation by partners to create new products and services and conduct focused research that supports rural and agricultural development.

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### AGora Technology Platform

The AGora technology platform can be thought of as web-based services focused on data management – GIS enabled and connected to a suite of data analytics – that can be extended to host an application portfolio. The intention is that the model be completely cloud-based. It will be designed using a “software as a service” model to ensure scalability and transferability.

AGora will provide a minimum latency testing and development environment for partners and vendors to use for prototyping and development, generating an AGora revenue stream.

The farmer and vendor portals will be integrated with the data view and application portfolio. AGora will prove, develop and support this capability. Internet of Things deployment will deliver rivers of data for each farm, providing additional value to AGora partners, supported by appropriate technologies.

#### Data Trust Platform

AGora will work with partners who use data to create value. To ensure that the rights and privacy of data providers are protected, and those providers benefit from the use of their data, AGora will implement a Data Trust. Trust in the traditional sense of the word is a three-party relationship where an asset/value is transferred from a Grantor to a Beneficiary through a Trustee. A Data Trust takes this concept further and establishes a technology framework that enables control and sovereignty of data assets between data partners.

*“Phil has completed another harvest, and now its time to plan for next year. All of the data collected from his farm for the past year (and before) have been collected into AGora, incorporated into its GIS and the Data Trust, and analyzed. He has at his fingertips information that links national and international corporate decision tools with his own. This software now is intelligent enough to tell him site specific information that he will use to make decisions about next year’s crops.*

*Thanks to AGora’s information services, he has access to the best available forecasting tools regarding future’s prices and anticipated yields of the various crops that fit his site-specific characteristics best. He’s looking forward to another profitable season.”*

### 3. The Technology Working Group

Further work will be required to assess and confirm the products, services, and pilot projects required to bring life to AGora. A select number will be necessary to establish operations, connectivity, and initial client value. They are defined in this proposal, along with the associated costs. As described in the GOVERNANCE chapter, one role of the Technology Working Group will be to conduct this assessment and confirm a delivery plan. Led by the Chief Technology Officer, teams will implement the framework, below, and champion the principles through the life cycle of the work ahead.

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#### 4. Core Technology Architecture

The overall design will apply open technologies, standards, and policy based on an agnostic architecture. It will allow freedom for innovation and maximization of value. This architecture will rely on a framework that emphasizes:

- Understanding of and alignment with a Business Vision across the various services to be provided.
- Logical modelling, that pays attention to well-bound component models, and open, standardized component interoperability. This will address fundamental requirements and concerns like information and device security; and messaging, protocol, pattern, and content standards.
- Devotion to scalability, extensibility, interoperability, replicability, portability, and reusability. Strongly influenced by concerns for accessibility.
- Anytime, anywhere, any-device access.
- Application of established Best Practices, and definition of new Best Practices for use by other communities in their Smart City initiatives.
- Use of generalized models and standards related to the Internet of Things, assimilating and applying new ideas and standards as technology is developed.
- Continual monitoring of technology trends and vendor capabilities. The market for Smart City transformations will be large, leading to prosperity for both adopters and providers. Marketplace competition will drive increased value.
- Use of pilot projects to mitigate risk, maximize value, and establish Building Blocks, with an emphasis on re-use. The more re-use, the less that needs to be done, maintained, and operated (a smaller footprint).
- Use of cloud services as 'quick-to-market' platforms for delivering early value.
- Attention always to the cost of ownership, avoiding vendor monopolies.
- An evolutionary approach that avoids the big bang and provides benefits early and often.

#### 5. Open Technologies

AGora will have a strong preference for open and open-source technologies. There are two general classes of services: (1) more traditional services like back-end analytics, collaboration, and resource pooling; and (2) innovative applications and data sharing. In the first case, technology is more mature and there is greater freedom of choice for standardization. In the second, there are fewer options; we don't want to limit innovators, but will require compliance with important things like the security framework, messaging standards, etc.

These demands drive creation of core partnerships with companies where security, standards and data integrity will be maintained and balanced with demands for cohesion across business, application, information, and technology domains. As described in this chapter, Sightline Innovation Inc delivers the only built-in Canada solution that enables data sovereignty without eroding control resulting from data owners being forced to move to a cloud provider or being subjected to vendor lock-in tactics.

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**Non-Proprietary**

Services will be provided in a way that is open and non-proprietary. Logical boundaries will be established which facilitate the participation of partners with proprietary technologies. For example, Data Providers will be able to gather data in the manner they like, but security, transport, message construct, and delivery to Data Consumers will be standardized and based on Open concepts.

**Multi-Vendor**

A logical component model will drive provisioning of technologies through granular, well-defined requirements. The overall technology architecture will allow for multiple vendors to participate while AGora supports integrated and interoperable solutions. Vendors will seek to promote their own end-to-end offerings. These offerings will be evaluated in light of their implications for vendor lock, cost of ownership, and constraints on agility and extensibility.

**6. Technology Standards and Policy**

AGora's technology architecture will ensure business alignment. A Technology Standards and Policy Framework will be put in place that maps business services to application components, that are in turn mapped to technology platforms, standardized or optional technology, and policy. AGora's intent is to produce portable, replicable solutions that significantly reduce deployment cost to other locations.

International Standards Organization (ISO) and other certifications will be sought, as required, as confirmation of diligent engineering, and to enhance attractiveness to other communities.

**Interoperability & Open Standards**

Interoperability will be architected based on open standards defined through best practices. The industry has come a long way in the last 20 years. Patterns of interoperability will be selected that support other core objectives such as scalability and availability. Today, the preference is for asynchronous messaging that can behave like synchronous messaging, and is expected to mitigate a variety of issues related to unexpected downtime by participating systems. It also allows for incremental 'forwarding or streaming' of data from source to analytical stores, rather than dependence on potentially long batch cycles.

**Replicability**

Replicability will not be limited to reusable, portable solutions, but will include business processes and governance frameworks. AGora will architect so third-party innovation and intellectual property are uncoupled. This will allow for 'plug and play' of alternative solutions. We will protect third party Intellectual Property, and will endeavor to arrange for re-use by other consumers at reduced cost.

Our proposed open, standardized technology will be designed with scalability, replicability, and extensibility in mind. Open and standardized technologies, by themselves will ease the challenges of portability. Portability will be further enhanced through well-bound, uncoupled, cohesive solutions, so discrete 'portions' of the solution can be packaged and ported as sub-system modules or, at a minimum, re-usable frameworks. This also allows AGora to port easily to other hosting partners should we be dissatisfied with the service.

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### **Scalability**

Scalability will be tested in pilot projects or proven through prior application. Almost all scalability issues can be addressed by adopting patterns that have been proven to be scalable. If there are issues, they will be identified early, and appropriate expertise can be brought to bear. Scalability issues are typically a function of flawed architecture/design in a technology, information or application domain. Resources are readily available in the marketplace to deal with these issues.

## **7. Accessibility and Usability**

Accessibility and usability of technologies and applications are planned to go beyond 'anytime, anywhere, any device' access. To the greatest extent possible AGora will design and implement tools and systems that are usable by all people. This will be enabled through negotiation of development agreements with private sector firms to ensure overall usability. This will expand the population of contributing participants and increase the value they receive. This includes designing for visual (blindness, color blindness), physical, and capability (oral, language) considerations. These requirements will be elaborated and ranked early, and throughout the initiatives so they can be addressed through the requirements, design, develop, and test iterations.

## **8. Future-Proofing**

IT Architects have learned hard lessons from years of being trapped into forced, costly upgrades of proprietary technology. AGora will take all due care and diligence in making technology choices, and contracts with technology partners will be designed to provide appropriate protections.

Architects will research current and future trends. The growing Smart Cities community will increase the availability of resources. Initiatives by AGora itself should influence the local market. Partnerships with educational institutions, and employment of young graduates is one way to effectively future-proof the solutions. By embracing simplicity, isolating complexity, and committing to well-bound logical modelling, an adaptable and continually evolving solution can be implemented.

The Data Trust is designed to grow and accommodate the impending wave of massive Internet of Things (IoT) technologies and new data sources. It also is designed to meet the needs of future regulations around the governance of data. As data production becomes more ubiquitous, we anticipate governments in the coming years to update existing laws or enact new legislation around the use, governance, and sovereignty of data.

## **9. Compliance with Legislative and Regulatory Requirements**

Compliance with Legislative and Regulatory Requirements will be articulated and designed into every part of the solution-building framework.

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## 10. Platform Technologies & Collaborators

Core capabilities within AGora will be supported by two underlying technologies. First is a fully secured data management solution – the AGora Data Trust. Second is a fully integrated Geographic Information System (GIS). AGora will deliver secure data management of IoT initiatives through its platform. Discussion is provided, below, with further details on how proposed technologies will protect and secure data in the DATA and PRIVACY chapter.

Through the development of this proposal significant effort has been invested in building corporate and academic interest in the work ahead. The following section outlines the enabling technologies that AGora will develop over its initial five years of operation. Those with appropriate technologies or having expressed interest in the technology opportunity are linked and identified, below.

### 10.1 The AGora Data Trust

The AGora Data Trust will collect, move, share and profit from the data that is provided to it. AGora's Data Trustee role will be legally defined and will clearly state the fiduciary responsibilities held by AGora and the respective parties. The Data Trust will be delivered through proprietary technology that is tested and deployed to protect, curate and monetize data on behalf of data providers. The structure for AGora's operations relative to equity, safety and security of operation will be established through the incorporation process. AGora also will confirm its fiduciary responsibilities:

- Accepting its responsibility to manage and provide honest-broker secure access to data on behalf of the farmers, businesses and others that maintain and provide data to it.
- Obliging its operations to provide long-term benefits to providers of the data.
- Confirming the technology framework to grant sovereignty over the data provided, grant control over the assets held in trust and establish pre-conditions for participation – a contract with each data provider and data user.

AGora assets will include data, curated datasets, analytic models, intellectual property, and machine learning technologies developed onsite. A Data Use Policy Framework will be developed to guide data use. AGora will work with data and technology providers to establish policies for this purpose.

The proponents have held significant discussions with technology solution providers to find potential partners with the same view of data, data ownership and monetization, in advance of committing to a specific vendor. Given that AGora is not yet a legal entity, no specific agreement has been established to provide the required architecture and

*"Phil and Arne just left the last meeting of AGora's Technology Working Group. To say they were pleased is an understatement – they were ecstatic! While there, AGora transferred into their bank accounts the first payment from the Data Trust. As early adopters, they helped AGora set up the Trust, describe what data is most valuable to them, and what needs to be done to collect it and then use it to add value to their farm operations. They then helped design the system to collect all the hyper-local data going into the Trust.*

*It was a long process, but now it is paying off handsomely. Companies are paying to access the data. And, as importantly, AGora is delivering to Phil and Arne huge amounts of information to help with on farm decisions. Decisions are becoming easier, and the time saved is being channelled into family, community and other farm activities."*

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technology solution. However, Sightline Innovation Inc., a leading Canadian technology provider, has provided a technology framework in anticipation of working with us to define their future participation in full deployment. Core elements of the solution are:

- Sightline's technology enables people, organizations, companies, and governments to control their data, derive value from data, and gain better insight from existing data sources in real-time across multiple business units and organizations. Its comprehensive Data Trust Platform is the only built-in Canada solution that enables data sovereignty without the erosion of control resulting from data owners being forced to move to a cloud provider or being subjected to vendor lock-in tactics.
- The company provides its services through two proprietary and patented Software as a Service (SaaS) based platforms: Sightline Innovation Data Trust ("SID") and Sightline Innovation Machine Learning for Optimal Networks ("SIMON").
  - SID is as a trusted alternative to centralized data lakes for Trust members to share data and perform advanced analytics at scale. The platform provides the ability to keep data in place, share data securely in a virtual data-exchange facility, and uses AI and distributed ledger technologies for network governance, membership onboarding, project evaluation and performance monitoring.
  - SIMON is Sightline's AI and machine learning platform. It provides AI capabilities through the integration of three distinct components: AI Domain, AI App, and AI Edge. SID and SIMON are currently delivering computational value in the Canadian agriculture, health, defense/biosecurity, and manufacturing sectors.

Refer to this proposal's CONFIDENTIAL Appendix for details on the Sightline family of technologies

## 10.2 Geographic Information Management

Data will be the critical focus and content of every product and service supported by *AGora*, which will be underpinned by a geographically-enabled data platform. A cloud-based scalable Geographic Information System will manage and access the growing array of geographically-referenced data. It will house diverse data related to the Region. Through this platform *AGora* will collect, curate and distribute data on behalf of participants and organizations looking to develop and commercialize new agricultural applications. ESRI Canada has offered their family of GIS technologies. Future discussion will fully define their roles.

## 11. Communications Technologies

The Regional Connectivity Lab will pilot and deliver the infrastructure required to collect hyper-local data and connectivity across the region on par with today's urban experience. This connectivity will be instrumental to enrich *AGora's* data assets and operationalize the innovations that *AGora* will develop with private sector partners. The Lab will be deployed as part of the early formation of *AGora*.

The Lab will accelerate expansion, improvement and utilization of wired and wireless connectivity throughout the region. Work will be based on a comprehensive geospatial map of all telecommunication infrastructure in the Region, including optical fibre, copper wireline networks, and terrestrial and satellite wireless networks. Maps will use data acquired from local governments, senior

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governments, network operators and other external sources, and from field mapping projects to fill gaps in coverage. Geospatial co-ordinates are an essential dimension to all fact-based analytics.

The regional telecom infrastructure map will be used to devise strategies, solutions and plans for expanding and improving digital connectivity throughout the region. This will require cooperation between property owners, local governments, senior governments, telecom network operators and other partners including energy providers and Internet service providers. *AGora* will undertake and support development projects to expand and improve digital connectivity in the Region, starting with two pilot projects.

### 11.1 Pilot 1: Internet Connectivity via an Energy or Gas Provider

Most farms and residences in rural Alberta are connected to an electric network and a gas network. Most of this rural infrastructure was developed through collaboration with property owners, governments and the service provider.

This pilot will test the viability of using these providers to deliver rural fibre connectivity comparable to urban Canada – across this rural landscape.

*AGora* will undertake a Data Provider Network (DPN) Pilot Project that supports the Farm Area Networks (FANs - detail following) with optical fibre connections managed as an open service. As with established rural energy networks, building rural data functionality will require collaboration between property owners, governments and operators. Electric utilities that incorporate data provision into their infrastructure can use it to mitigate growing risks posed by accelerating adoption of distributed power generation and storage systems by customers.

This pilot will include the following:

- Partnering with one or more electric and/or gas providers interested in incorporating optical fibre data provision into their existing infrastructure and operations: **four have expressed written interest**
- Collaborating with providers, governments and engineering and regulatory consultants to identify and eliminate technical and regulatory obstacles
- Collaborating with providers to choose footprints for one or more pilots
- Engaging, educating and organizing rural property owners within pilot footprints, and guiding them in developing connectivity co-ops to accelerate utilization and drive return on investment
- Collaborating with connectivity co-ops, service providers, providers and governments to develop sustainable and scalable models for financing, operating and using data infrastructure
- Managing the pilot for a period of 3-4 years, and developing a succession plan if needed
- Attracting multiple service providers interested in leasing capacity on the infrastructure developed to deliver digital services to rural communities, including competing service providers
- Defining, measuring and reporting on meaningful performance metrics

Expertise developed during deployment will be captured in a series of Best Practice Case Studies for future development by both *AGora* and others as Canada-wide scale-up takes place.

Technology providers have indicated interest and confirmed support. Most significant, four energy utilities will provide time and effort in support of proofs-of-concept through the Regional Connectivity Lab pilot projects. FortisAlberta, EQUUS REA Ltd., ATCO Gas and Zayo Group have all confirmed their interest in participating in pilot initiatives to assess how their existing infrastructure can be used to

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support broad deployment of rural communications technologies. **This is considered a fundamental achievement.** The ability to collect and move information cost-effectively in a rural region is essential. AGora will determine how this will be achieved through the participation of these companies.

### 11.2 Pilot 2: Establishing Farm Area Networks (FANs)

AGora will undertake a Farm Area Network (FAN) Pilot Project to demonstrate the value of cheap, ubiquitous and unlimited on-farm connectivity for agricultural operators. The FAN Pilot will connect a diverse array of remote digital sensors and other devices to on-farm wireline and wireless networks, enabling remote monitoring of the environment and operating conditions, and remote operation and management of fixed and mobile equipment.

For efficiency of fibre optic access, the FAN Pilots will deploy close to County offices. AGora will use the FANs to collect data and deliver experiential understanding of digital on-farm innovation and hyper-local data collection



Each FAN will enable wireline connectivity within a farmstead, as well as wireless connectivity by way of a mesh network that serves a footprint at least one kilometre in diameter. Existing poles and buildings will be used where suitable to mount access points for the wireless mesh networks, but additional poles or towers may be required to provide connectivity into fields. The pilot will include:

- Building partnerships with technology and service vendors interested in leveraging the FAN
- Piloting to showcase their solutions, including network solution providers
- Selecting suitable early adopter farm operators to serve as venues for the pilot
- Designing the financing, technical, operating and business models for the pilot
- Coordinating and managing development of the FAN networks
- Procuring, installing, monitoring and maintaining the initial constellations of devices connected to each FAN, and adding to these constellations as needs and resources allow

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- Managing the pilot for a period of 3-4 years and developing a succession plan
- Engaging communities and local innovation leaders in experiential 'show me' learning relating digital innovation in agriculture and rural life
- Defining, measuring and reporting on meaningful performance metrics for the pilot, including impacts on rural innovation activity and leadership.

Optical fibre connectivity for all FANs will be essential to the effectiveness of the pilot. The proponents believe the performance of optical fibre connections can be vastly improved at marginal incremental cost, enabling the FANs to support the broadest range of digital innovations far into the future.

Today, fibre-connected homes and businesses in Olds, Alberta can buy Gigabit-per-second (Gbps) Internet service for \$125 CAD/month. Fibre-connected homes and businesses in some U.S. markets can get 10 Gbps service for only \$200 to \$300 USD/month.

Bringing the same performance and pricing to homes and businesses throughout rural Alberta requires a fundamentally different paradigm for rural connectivity. The current paradigm forces service providers to build their own physical networks to deliver their services, but related costs are an insurmountable barrier to market entry for most would-be competitors. This is especially debilitating in low-density rural areas where competitive connectivity is needed most, but markets are too weak to support effective competition.

#### **Collaborators, Expressions of Interest and Technology Alignment**

Bell Mobility	Telus Communications	Cybera Inc.
FortisAlberta	ATCO Gas	EQUUS REA
Zayo Canada	3C Information Solutions	Utility Net
O-Net	Connect Mobility	Comtech Communications
First Nations Technical Services Advisory Group	IBM Research & Development	ISP Computers

*"Joseph's Farm Area Network is being expanded. Initially, a collection network was built to gather hyper-local data on farm operations at his immediate farm site. All machines, fixed assets, inventories and 'precision-farming' equipment were connected. Sensors were deployed to collect vehicular movement, moisture condition, and planting (variety, nutrient, chemical) and practices, etc.*

*Now, he is expanding the system to collect data from two new sources – full lifecycle tracking of his cattle herd, and to a newly purchased section of cropland 20 miles west. His current FAN has paid for itself, and has cost justified expansion to other parts of the business. An additional benefit he enjoys, thanks to AGora's Regional Security System is the comfort, and reduced insurance premiums, of knowing his valuable equipment is protected while he and his family sleep and even go on vacation."*

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## 12. Application Labs

AGora will establish a secure testing and development platform that provides internet enabled tools to enable residents to meet, discuss, research, resolve and ultimately prosper from the data access provided by the interactions generated and the data that will underpin AGora. This is where private sector partners, and perhaps even competitors, can work together to co-develop new innovations to benefit the farmer and other rural residents. These 'Labs' will be enabled in several ways. First is active definition of requirements with a specific vendor, in partnership, that delivers the requisite capabilities. Second is by making available the data housed at AGora to interested parties that, in turn, develop specific applications. Content, challenge and opportunity definition will confirm which approach is most viable given the 'Lab' in question.

### 12.1 Regional Commerce Lab

With a website in place, one of the first capabilities that will be established is an on-line tool for commerce. Developed and managed in partnership with a commercial vendor, the Regional Commerce Lab will deliver a marketplace/trading system that allows farmers to advertise their products and services within the region and beyond. Initial plans include land for rent or sale, new and used products for sale, and specialty items. This system also could be a vehicle for community associations, clubs, blogs, Do-It-Yourself groups, and a video library. This will enable many other community cross-connections.

The Regional Commerce Lab will be a vehicle to support 'buy local' initiatives. This will allow people in urban areas to source and purchase locally grown and made products and communicate directly with the producer. Using data provided by both buyers and sellers, it will enable research and analysis of regional markets and identify future growth opportunities.

Several products will support regional food security initiatives. The World Food Summit of 1996 defined food security as existing "when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life." AGora will provide the ability to encourage and facilitate food security for rural, urban and indigenous communities. The issue of food security will be addressed, and solutions discovered, through the partnership between community and technology.

This is a priority deliverable given the maturity of on-line market solutions, and the many partners that exist in the marketplace. Several have indicated a willingness to work with AGora to move forward.

*"Jane poured herself a coffee and sat down to log into AGora to check if any of the chickens she had posted yesterday had sold. So far 6! She transfers her funds into her account and messages to make delivery arrangements. Not a bad start to a Saturday. She noticed she had a message on one of the message boards. It was a recent graduate for Olds College wondering if she still had the summer job available that she had posted a week ago? Maybe one more cup of coffee and watch a quick video – the one the research teams had sent her about new feed for her poultry."*

### Collaborators, Expressions of Interest and Technology Alignment

Expression of Interest / Technology Alignment	
Sightline Innovations	NAIT Industry Solutions
CropPro Consulting	Alberta Machine Intelligence Institute
University of Alberta	ATB Financial

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## 12.2 Regional Value-Added Agriculture Lab

The Regional Ag and Food Lab will map, monitor and analyze agricultural production in the region. It will improve understanding of food production and food safety by rural and urban residents alike through delivery of data-driven agriculture that uses hyper-local data. Blockchain technology will secure and enable data collection and the analytics required to support ever-increasing demands for food traceability, much like how *Gem* is working in the USA with the Centre for Disease Control to put epidemics on blockchain to increase effectiveness of source identification and disaster response. Applications will prove provenance, inform production decisions and identify gaps in the supply and security chain of farm products as they move to market.

Key enabling features that have been identified by farmer participants process include mapping and monitoring agriculture and food operations and markets throughout the region, having the ability to conduct research, and analyze regional potential for agriculture and food production (gap and opportunity analysis). *AGora* will build regional capacity for data-driven agriculture and help deliver traceability of primary and value-added products, improving food safety overall.

Significant future partners have indicated a willingness to work with *AGora* in co-development. Farmers themselves are being required to provide ever more detailed information on point-of-origin food provenance and contact traceability as animals move through the feedlot system (point of contact detailing for disease tracking etc.). Canada is expecting and demanding greater proof of food safety to support expanded domestic and export markets.

*"The video Jane is watching is about the new process that will track her poultry from hatching to freezer using the new block chain technology. It will help take away consumer questions when she can track all that went into the birds and download it onto an FAQ sheet to go with delivery. When the video is over, she logs into the member area and sees how the other participants in the poultry study are doing. She makes a note that one other participant's birds are maturing much quicker than hers and enters her own weekly data."*

### **Collaborators, Expressions of Interest and Technology Alignment**

Expression of Interest / Technology Alignment		
Sightline Innovations	ATB Financial	University of Alberta
NAIT Industry Solutions	Alberta Agriculture	Crop Pro Consulting
Alberta Machine Intelligence Institute	Alberta AG and Food Council	Telus Communications

## 12.3 Regional Weather and Climate Lab

This Lab will link the collection of micro area weather information to land use, intelligent farm practices and crop selection and management. It will improve decision making on crops planted, nutrients required to optimize yields, inform management decisions (like when to spray/harvest, etc.) and better plan for daily farm activities. LoRa Sensors are already being deployed around the world for Agriculture purposes and would be assessed for use in the regional pilot.

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Real time weather data will be collected at the farm level and linked to regional and national databases. Mapping and monitoring of weather systems will take place and be linked to on-farm support tools. A real time, micro-area weather service will be enabled.

Creation of a large data set that links farm-based decisions to climatic activities, predicting on a much more localized and specific basis short term weather events, and informing better farm decisions will result. AGora believes this linking of micro area weather data with existing data sets managed by existing research and commercial endeavors will provide value along the full value chain, as providers of national and regional farm data are interested in delivering greater farm management services and risk reduction to the end user. The end user, in turn will be enabled to benefit from the delivery, analysis and use of their information.

These data also are expected to help model and assess projected regional impacts of climate change and support development of regional strategies to adapt and mitigate the impacts of pending change. As such, AGora anticipates involvement by academic, research institutes and government institutions involved in climate response, building regional capacity for understanding, adapting to, and capitalizing on climate change.

*"Harvest is in full swing, and it's time for John to head home for the night. His daughter meets him and takes over the combine, which she will run all night – not a problem since the software on the combine has linked the combine's GPS guidance system to satellite data and the hyper-local background moisture data the farm has collected. It tells her where the wet spots in the field are, and what weather may be coming, and ultimately how late she can combine. The system also has linked data from the family's land 20 miles west with information from the quarter she is harvesting, and told her what she needs to know – a specific forecast - to keep on harvesting."*

#### **Collaborators, Expressions of Interest and Technology Alignment**

Expression of Interest / Technology Alignment		
Sightline Innovations	ATB Financial	University of Alberta
NAIT Industry Solutions	Bell Mobility	Crop Pro Consulting
Alberta Machine Intelligence Institute	SensorUp	3C Information Solutions

### **12.4 Regional Energy Lab**

Evolving out of a question around proper disposition of regional waste will be the delivery of a Regional Energy Lab. Participants confirmed interest in delivering a system that integrates the region's waste management and recycling services into an efficient use of agricultural and residential by-products. Rapid improvements in energy production technologies and economics are steadily creating more profitable opportunities for consumers of fossil fuel energy to become more self-sufficient producers of their own clean energy, including energy from renewable sources such as sunlight, wind and industrial waste. These opportunities are driving an accelerating transition of energy economies from household to global scales, amplified by social and political responses to climate change.

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Ag operators and rural communities can exploit these opportunities to improve self-sufficiency and profitability while reducing their dependency on grid power and fossil fuel, reducing their GHG emissions in the process. Solutions for energy are increasingly plentiful, accessible and affordable. The Energy Lab will work to accelerate energy transition throughout the Parkland region, helping regional innovators identify and exploit opportunities to profit from advances in energy technology.

The work of the Energy Lab will include:

- Mapping and analyzing the regional energy economy, including sources, quantities and qualities of industrial waste that can be gasified or incinerated to drive electrical power generation.
- Helping regional innovators build comprehension and competency around energy economics and solutions for community and on-farm energy production and management, by providing online tools for energy-related learning, analysis, modelling and planning; online and onsite learning tours and learning workshops relating to energy solutions and energy transition; and demonstration projects

*"Dave just finished putting in a bio-fuel plant on his farm to serve his needs and the neighbouring farmers who invested in the business. By using AGora he identified all the local supplies of lower grade canola and other crops and 'carbon based' materials that could feed a facility like this, identified the most effective technology and confirmed local markets for the bio-fuel.*

*They found, through AGora, a local entrepreneur with the bio-fuel technology they needed to make their plant successful. Dave now can claim a federal carbon credit, as Canada's Clean Fuel standard provides a financial benefit to 'green energy' producers."*

### **Collaborators, Expressions of Interest and Technology Alignment**

Expression of Interest / Technology Alignment		
Sightline Innovations	ATB Financial	University of Alberta
NAIT Industry Solutions	Alberta Machine Intelligence Institute	

### **12.5 Regional Safety and Security Lab**

Mapping, monitoring and mitigating risks to people, livestock and property throughout the region is a growing need. Today urban residents benefit from real time security monitoring and delivery of safety services. This has been enabled through advances in communications technologies not yet in place in rural regions. This Lab will work towards deploying a full network of IT enabled sensors, monitoring systems and integrated products that deliver real time ability to track, maintain and monitor on farm and rural assets.

The Lab also will improve safe vehicle movement across the counties, particularly with respect to large vehicle (farm, municipals and industrial) and significantly reduce the number of collisions between personal vehicles and large industrial vehicles which often move at slower speed and take up much more space on the road.

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It is recognized that several enabling actions are required to deliver upon this Lab – broad connectivity must be established to provide the base to monitor farm and rural assets; blanket coverage and data collection ability along major traffic routes needs to be enabled; and linkage to information systems deployed in vehicles must be enabled. Initial implementation will take place through data collection to be enabled through each FAN.

First order work is engagement with research and development institutions involved in issue definition and delivering proof of technology. They exist. The Applied Research Centre - Sensors & System Integration at NAIT, the Centre for Smart Transportation at UofA and Alberta Traffic Safety (corporate) have expressed interest in participating in the design and delivery of this Lab, and the use and development of the data that support the decision-making infrastructure. Significant work is envisaged to fully define the technical requirements, enabling software and partnerships to bring life to this Lab.

*"Before heading home for the night John switched on the guidance systems for the grain carts that have been filled during the day. The autonomous vehicles begin their slow drive home, and should be at the granaries by morning. He is not worried since they are fully integrated with necessary road telemetry and traffic information. Crossing several grid roads and a major highway used to be a problem, but now that the county is fully networked and vehicles can receive real-time notification of big machines on the road, it's a safe and efficient process to get the crop home in off peak hours when it's safest."*

#### **Collaborators, Expressions of Interest and Technology Alignment**

Expression of Interest / Technology Alignment		
Sightline Innovations	Bell Mobility	SecurTek
NAIT Industry Solutions	Alberta Machine Intelligence Institute	University of Alberta
University of Alberta – Smart Transportation	Alberta Traffic Safety	

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### 13. Technologies Supporting Global Research Initiatives

The platform established through AGora will enable the collection and analytics of huge amounts of highly specific information related to rural and farm activities. These data will support significant research and development, be it through academia or the private sector.

Collecting hyper-local data in a rural farm context, with leadership from farmers willing to be involved delivers a new approach to research and vetted technologies. Data will be created that fully informs how farms are being managed and operated. In addition, in between the lab and full commercial deployment there is the opportunity to deploy real-world trials, collect huge sums of data to inform design decisions, and see how new technologies actually are being used – by the farmers themselves.

*"Today is the day that the crop development companies deliver their new seed varieties. Several early adopter farmers are ready to plant highly tailored varieties to see which perform best under 'real-farm' conditions. Global research has matched soil type and climatic zone, predicted moisture needs and defined specific nutrient/micro-nutrient requirements in test conditions. Now it's time for farmers with the means to collect huge quantities of information to put these varieties to practical tests. The full sensor networks across the farms will collect data that will inform decisions on genetic improvement, crop support (nutrient, herbicide / pesticide) use and which perform best under what condition, to name a few.*

*Development companies that are recognized AGora partners benefit handsomely from access to these real-farm conditions and are willing financial partners / contributors to the farms' operations. Huge decisions now rest on the outcomes, as companies can determine which variety works best where, and which hold promise for long term improvement. Thanks to AGora's Data Trust, these companies also have access to the data needed to commercialize their new variety's in other parts of Canada, and the world, with similar characteristics.*

### 14. Risks and Mitigations

AGora's proposed corporate structure inherently manages risk – duties, structure, planning processes, policies, regulations and overall accountability processes both assign responsibility and contain risk. The GOVERNANCE chapter fully articulates roles relative to how projects will be managed, deployed and delivered.

Privacy and cybersecurity breaches will be treated as a primary branch, especially as they relate to devices, network, and data ownership. We intend to partner with experts to address this concern.

#### **Human Safety Related to Autonomous vehicles, and downstream utilization of robotics**

Risk – 'Renegade' behavior rooted in the unavailability of sensor and/or component interoperability.

Mitigations – Exhaustive testing related to any, and all, scenarios regarding the dependency of autonomous vehicle 'losing contact' with governing related objects; example connectivity, vehicle/sensor mechanical failure. Continuous operational monitoring of network and exceptions.

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Local device shutdown should be programmed on certain conditions; remote shut down should be available and applied. Apply other best practice remedies.

Risk – ‘Renegade’ behavior rooted in malevolent ‘hack’, or intrusion, related to vehicle or device.

Mitigations – Multi-factor authentication can be applied to ‘control’ devices (see Sightline). Detection of attempts to intrude should be logged, examined. ‘White hat’ hackers can be employed for testing/ongoing. Local device shutdown should be programmed on certain conditions; remote shut off should be available, and applied, on suspicion of takeover.

#### ***Reliance on signaling/alerting technologies that are less than 100% available***

Risk – Signaling and alerting technologies become mainstream and will gain mainstream adoption. Citizens expect and are guided by their information. They may be sometimes unavailable.

Mitigations – Wherever possible apply a similar solution pattern that is applied to traffic lights. In the example of traffic lights, the red lights blink for all drivers; indicating outage and defining behavior (four way stop). In the example of notification of ‘heavy machinery ahead’, notify ‘may be heavy machinery ahead’, until systems are fully operable.

#### ***Privacy of Information – Impersonation and Identity Theft related to authentication/access***

Mitigations – As described in the TECHNOLOGY chapter, we intend to partner with sector experts to address this fundamental risk. Best practice mechanisms will be implemented based on monitoring, and the detection of suspicious behavior, and emphasis on ‘safety first’. ‘White hat’ hackers can be employed for testing/ongoing. We will define processes to mitigate security breaches that will identify the root cause, those harmed, level of harm, and ‘resolution of root cause’ actions.

#### ***Privacy of Information – Other***

Mitigations – The data governance and data management model positions Data Providers to define what data will be available, to what consumers. Best practice mechanisms will be implemented based on monitoring, confirmation that solution is working as defined (no leaks), the detection of suspicious behavior, and emphasis on ‘safety first’. ‘White hat’ hackers can be employed for testing/ongoing. Define process for Security Breach that identifies root cause, those harmed, level of harm, and ‘resolution of root cause’ actions.

#### ***Technology Project Execution – Quality/Time/Budget***

Mitigations – Adherence to the architectural principles, and the following checklist are typical mitigation strategies:

- Employ Proof of Concept (PoC) and Building Block concepts.
- Define expertise required and provision the necessary people/partners.
- Define how expertise will work together and optimize the engineering process.
- Define small teams and make them accountable for outcomes within the overall architecture.
- Engage as many full-time, for a period, resources as possible as momentum reinforces persistence.

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## GOVERNANCE

Different levels of involvement by different groups will unfold. Teams, partners, stakeholders and early adopters will help define success. This chapter describes how the project(s) will be governed. At the core is a new not-for-profit company with the responsibility to link those involved in the most effective way possible, provide operational transparency and align diverse interests in common purpose.

### 1. A Not-for-Profit Organization

AGora will be created as a not-for-profit corporation to establish clear lines of responsibility, provide operational transparency, incent diverse interests to participate for the common good, and mandate clear financial accountability. Materials supporting incorporation of AGora (bylaws, etc.) and the operational design of the organization will clarify its purpose and direction for staff, partners and funding entities alike.

AGora will be created as a new not-for-profit corporation. This model has been chosen with deliberate care.

AGora's Strategy Roadmap defines initial outcomes to be achieved to create an effective GOVERNANCE structure. The key outcome is that its design supports national transferability, effective governance, monitoring and sustainability. The mandate of AGora, subject to Board input, is to:

***Take advantage of the 'virtual' nature of the internet and its connected technologies to support thriving rural communities.***

The not-for-profit structure delivers a practical framework to:

- Ensure equal representation by the four sponsoring counties: It was deemed impractical to house delivery inside any one of the four municipal structures.
- Establish means to attract corporate participation and financial support: This will create the ability to engage in legally binding development initiatives with private sector interests.
- Incent academic involvement: This will deliver a 'living lab' across significant geographies. AGora establishes more than a 'test plot' approach to support research and validate innovation – tested in real time – under highly variable conditions and deliver highly detailed data to support academic processes.
- Frame accountability in ways that are well-understood: The straightforward legal structure will be well-understood by external third-parties, with respect to both delivery and accountability (external audit).
- Provide a means to hire, service debt (if any), set contracts/agreements and receive revenues: This will be a legally enacted entity.

The Objects and Bylaws of AGora will reflect this and other key design criteria. AGora's legal structure will create a risk management and mitigation framework that provides responsible oversight to fund delivery and assign clear operational accountability.

To prepare this proposal a best-practice review of similar organizations was undertaken. A number of not-for-profit organizations provided materials. The applicants received significant support from TECTERRA (Calgary), a technology innovation support centre that has developed bylaws and operational guidelines that meet and exceed federal/provincial standards. The design of TECTERRA, founded in 2010, has helped to ensure long-term support from both the federal and provincial government. This has informed the proposed AGora model.

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## 2. AGora Board and Advisory Groups

### **Board Structure and Membership**

It is envisaged that the AGora Board will be comprised of members representing each sponsoring county, local farm and rural interests, select for-profit firms, First Nations, communications providers, economic development interests, academia, and federal and provincial government representatives as deemed appropriate. A 13-member board is considered optimal.

The following members of the Design Team that created the Roadmap guiding full implementation have agreed to sit, initially in an advisory role to oversee establishment of the corporate entity, which they will then join as board members:

- John Knapp (retired) - Deputy Minister, Alberta Ministry of Agriculture
- Peter Laffin, Director of Business Development, NAIT Applied Research Centre - Sensors & System Integration, Office of Research and Innovation
- Sarah Leteta - Bison Rancher, Entrepreneur
- Brian Olafson (retired) - Vice-Chair Board of Directors, TECTERRA; Board Member, Cybera; Vice-President, Bell Canada

AGora bylaws will define membership structure in detail.

### **Board Committees & Working Groups**

Initially, the following leadership groups will be created:

- The Finance and Audit Committee, responsible for providing support and advice to the Chief Financial Officer (CFO), monitoring and reviewing the financial performance and internal controls, developing the annual budget, and acting as a point of contact between the Board and the external auditor.
- The Technology Working Group, responsible for providing support and advice to the Chief Technology Officer (CTO) and AGora in the development of supporting infrastructure and applied technology initiatives that will deliver immediate benefit from new ICT capabilities for the agricultural sector.

Major technology projects will require additional analysis prior to confirming investment. Drawing on best practices from similar not-for-profit organizations, the working group will be mandated to provide a rigorous review of development initiatives that includes monitoring and evaluating the strategic direction for programs and activities, selecting applied technology initiatives, placing emphasis on those that will create immediate benefits for the rural economy and assessing and recommending projects for approval by the Board, within the funding guidelines and budget constraints for these projects.

The overriding consideration for approval of projects is: Does the proposed development have the potential to enhance the economic and social well-being of rural Albertans and Canadians through the improved use of connected technologies?

The Technology Working Group will include members external to AGora. It will be comprised of well-respected, volunteer representatives from industry and the research community who have a background in issues related to AGora's mandate.

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- A Connecting Peoples Working Group made up of early adopter participants that will focus on priority requirements of the initial group of farms and businesses. They will provide accountability and leadership on stakeholder engagement, and will identify innovative strategies, techniques, or tools that are evidence-based that could be used to sustain stakeholder engagement. This will confirm their interests, provide practical guidance on design of *AGora*, and help to define infrastructure and data requirements from a user perspective.

### 3. Management and Staff

#### *The Executive Team*

The Chief Executive Officer (CEO), reporting to the Board of Directors, will be responsible for translating strategic Board intent into corporate action. The CFO will deliver financial oversight, manage day-to-day financial operations, develop and oversee budgets and deliver audited statements following selection of an external accounting firm.

The CTO will be responsible for defining *AGora's* overall technology strategy and deploying and applying corporate technology assets in the rural / agricultural sector and beyond. Responsibilities also include design of the technology platform to manage *AGora* data, liaison with the Technology Working Group to recommend technology solutions for *AGora* and its partners, and oversight of system operations across the four-county region.

#### *AGora Staff*

*AGora* will be staffed to the minimum level required to ensure success. Full requirements will be defined in the implementation phase. Job descriptions will be created, and positions will be filled.

Staff will take leadership roles in moving four Value Streams forward. Each Value Stream will be supported by a Working Group made up of local stakeholders, partner representatives, subject matter experts and volunteers. The CEO, CFO and Office Manager will be focused on the "Building *AGora*" Value Stream. They will carry the vision and change program forward and report to the Board. They will be accountable for overall governance and operation of the organization.

A full-time CTO and a Solution Architect will focus on the "SMART Information Management and Technology" Value Stream. This will include design and implementation of *AGora's* architecture. They will enable the infrastructure through a series of Proofs of Concept and Pilots and focus on the flow of hyper-local data in response to agricultural challenges. They will work with the Technology Working Group to lever the capabilities and expertise of partners and subject matter experts, ensuring that scalability, privacy and security are primary concerns.

Agricultural Technologists will be responsible for providing front-line support to farmers, transferring technology, and applying a deep understanding of agricultural challenges in each of the LABs. They will work with the Technology Working Group, hand-in-hand with farmers to gather requirements and a deep understanding of the challenges they face, in parallel with vendors and partners applying innovative technology, testing hypotheses, and measuring results. They will combine technological expertise with a hands-on farm work ethic.

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A Communications Specialist will apply their skills to marketing, communication and community engagement, focusing on the “Connecting People Technology and Farms” Value Stream and working with the “Connecting Peoples” Working Group. All staff will be supported by the Office Manager and a part-time Grant Writer who will identify opportunities for AGora growth and funding. This person also will work with partners to define required funding and funding sources for more innovation projects.

The intent is to create a ‘virtual’ organization as much as possible, but modest space will be established for administration and technical support. More may be secured as needed for meetings and for incubator space to support specific innovation projects.

#### 4. Partnerships

Greater value is created in partnership than in isolation. AGora is committed to creating partnerships, and will seek to create close working relationships with local producers, the private sector, academia, First Nations, and other groups that share a common interest. The Service Provider Policy Framework will be developed to achieve the outcomes identified in the Strategy Roadmap.

Specific contracts will be established that define deliverables, costs, timelines, control points and oversight, to ensure timely, cost-effective delivery and ensure that the expected value is received. Among other things, this will include project objectives and deliverables, expected impacts, required funding, leveraged contributions, technical approach, plan and milestones, intellectual property ownership, and data ownership.

##### **Infrastructure Partners**

Infrastructure partners will include technology, connectivity and internet service providers. Letters of support are included. Infrastructure development partnerships will differ from service development partnerships given the very different revenue potentials associated with success, and the expected challenges in project design and delivery.

##### **Service Development Partners**

AGora will provide the enabling infrastructure required to develop and deliver a family of products designed to meet specific needs of the farm and business community. Each solution will be created in partnership with one or more private or academic partners. Partnership structures, revenue models, and risk sharing will be specific to each solution.

##### **Early Adopters**

Several groups of farmer and business partners are envisaged. As described previously, early adopters will agree to deploy new technologies across their land base or business. Partnership agreements will define responsibilities and benefits received (such as access to consolidated data and decision-making tools that improve farm practices), revenue potentials, site access, and the like.

##### **Others**

AGora will seek to form partnerships with the federal, provincial, and municipal levels of government, First Nations, and others. Financial support from these entities will create new partnerships based on a sharing of risks and rewards linked to success of AGora.

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## 5. Operating Principles

### *Financial Management Principles*

AGora financial oversight will be delivered through combined accountabilities of the Chief Financial Officer, the Board of Directors, and the Finance and Audit Committee of the Board. An independent audit firm will be engaged to report on business operations.

### *Program Management Principles*

Program Governance guides delivery of the transformation based on decentralized and distributed decision-making, clear roles and responsibilities, and coordinated systemic planning, problem-solving and learning at the program level. Collective intention will be sustained by AGora's organization and the Board. AGora will:

- Create high-functioning teams that are self-managed and empowered to make decisions. Employees will be identified with the relevant skills and experience; gaps will be filled where necessary; team commitments will be clearly articulated; and events, information and tools will support teamwork. AGora will focus teams on delivering results.
- Develop a high-level plan for strategic initiatives in a release planning process based on ranked outcomes. This blueprint, created by team members, will indicate the order in which initiatives will be addressed and when they will be completed. It also will serve as the baseline for measuring progress.
- Establish frameworks to track team achievement, assess risk, monitor outcomes and remove barriers to achieving results. As described elsewhere in the proposal, performance measures will be identified and aligned with the Strategy Roadmap.
- Sustain dialogue to resolve conflicting perspectives and ensure alignment. Working Groups, teams and stakeholders will create artefacts and events that support ongoing dialogue around the desired future, enabling outcomes, value delivery, actions, and work. This process will be continually monitored and refined, and the dialogue will respond to changing circumstances.
- Use a Lean/Agile structure to underpin the program budgeting process and plan for future work. Approvals will be linked to funding, priorities, expected results, and decision responsibilities. Program management will focus on balancing work-in-progress, team flow, alignment, dependencies, performance, and progress in achieving program goals.

### *Project Management Principles - the Lean/Agile Approach*

Delivery will be enabled using the Lean/Agile implementation framework. Lean/Agile is widely adopted across the technology sector - requirements and solutions evolve through the collaborative effort of self-organizing and cross-functional teams and their customer/end user. In AGora's case, implementation teams will emerge from those who have been engaged to develop the Strategic Plan. Additional members, products, timelines structure and processes will develop from this core. Full articulation of the processes can be found in the PROJECT MANAGEMENT chapter.

AGora will coordinate execution based on active Lean/Agile stewardship of the Working Groups and teams, in cycles of acting, learning, and planning. Project management will be organized around the flow of value. Delivery will be achieved through the Agile teams, where all teams have a synchronized set of events, have an Outcome Owner and a Team Coordinator (see section following), and deliver work linked to a roster and a schedule. As the methodology describes, a regular process will be

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established for program monitoring, communication, and progress that creates a rhythm for sustained performance. Through the Lean/Agile process AGora will:

- Create a culture of trust. Teams will be empowered to make decisions. Information will be shared openly and constructively, and team commitments will be honored.
- Be purposeful in value delivery. Innovating and learning as outcomes are achieved, and as impacts are created. Teams will become increasingly competent in working with complexity.
- Strive for agile delivery based on self-organizing, self-managing and cross-functional teams. Deliver value through prioritized outcomes and user stories. Teams will be synchronized through iterations and team events. Progress will be demonstrated at defined intervals and planning will happen just-in-time.

#### ***Risk Management Principles***

Risk is exposure to a potentially negative outcome, with an associated level of uncertainty. Risk management seeks to identify the risk in detail, explore ways to address it and have the best approach prepared for possible use. Regardless work area, programs face several common categories of risk:

- Business risk related to a shift in business realities resulting from new market challenges or moves made by competitors.
- Technical risk resulting from evolving technology platforms, adoption of new technologies, and the combination of technologies in new ways.
- Operational risk related to suitability of the solution within the existing organizational ecosystem and the skills and knowledge required for the organization to run and support the solution.
- Process risk that occurs when a technique is used beyond its range of applicability or outside of the organization's comfort zone.
- Organizational risk resulting from changes in reporting structure, dysfunctional politics, competing visions, the social dynamics of transformational change, and other forces.

#### ***Performance Measurement Principles***

AGora will use the Performance Measurement and Improvement System (PMIS) framework for lean-agile programs to measure, learn and achieve continuous improvement. The framework will be constructed based on the capabilities and outcomes in the Strategy Roadmap that describe the strategy and intention of the program. Appropriate metrics have been chosen that will assess progress that is being made to achieve critical outcomes, and to provide the feedback required for teams to learn and adjust. This is described in detail in the PERFORMANCE MEASUREMENT chapter.

#### ***Intellectual Property Management Principles***

New intellectual property (IP) will be developed. It will be desirable to protect and commercialize this intellectual property. The Chief Technology Officer will be responsible for defining ownership and how value is realized from its development, either independently or through delivery partnerships.

AGora's Intellectual Property Policy framework will allow for timely, efficient dissemination of new IP, while allowing for its commercialization. AGora policy will recognize the respective interests of all funding participants in creating this intellectual property. Benefits are expected to accrue to the creators, AGora and other sponsors of the activities that reflect their respective contributions.

### **Data Privacy**

By design, AGora will collect and manage data, and will be responsible and accountable for the data under its control. The Chief Technology Officer shall be assigned Privacy Officer responsibilities to ensure compliance. Technology compliance is fully detailed in the Sightline technology architecture; please refer to details provided in the TECHNOLOGY chapter and the CONFIDENTIAL appendix.

## **6. Letters of Support**

We have received fifty-five Letters of Support from a substantial number of key constituents for this project. This demonstrated commitment to work with us has been received from all municipalities in the region (4 partners and 5 additional towns and cities); technology producers; connectivity companies; First Nations; government ministries; agricultural producers; technology accelerators; academic institutions; utility companies; and key volunteers (some of whom have agreed to serve on an inaugural Board as AGora is established). The complete set of letters received is provided as an appendix to this proposal.

## **7. Risks and Mitigations**

AGora's proposed corporate structure inherently manages risk – duties, structure, planning processes, policies, regulations and overall accountability processes both assign responsibility and contain risk. All organizations need a structured and methodological approach to coordinate governance, risk mitigation, and compliance. Risks range from strategic risks in markets and value chains, day-to-day operational risks, and financial risk inside the firm (fraud, breach of contract, etc.) and external (interest rate impacts upon borrowing ability, etc.). Each risk requires an appropriate plan of action.

Compliance requires definition of a process and responsible follow up to ensure risks are minimized, the organization responds appropriately when they occur, and the duty to report is honored. Risk management strategies relevant to key elements of this proposal are defined in each chapter.

### **Corporate Strategy**

**Risk** – Significant change in the client base, operating environment, markets or revenue may impact AGora's long-term ability to function.

**Mitigations** – Conduct periodic environmental scans with the Board and external stakeholders to re-assess and confirm AGora's strategic direction. Evaluate options for corporate renewal based on new realities when circumstances change.

### **Operational Risk**

**Risk** – Loss resulting from failed processes and systems or from external events.

**Mitigation:** Identify and manage operational risks, with full monitoring and reporting. Assign oversight responsibility to the Board of Directors. Assign responsibility for compliance to the Chief Executive Officer.

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***Internal Fraud and Error***

Risk – Corporate fraud and malfeasance.

Mitigations – Establish a full suite of financial accountabilities, with responsibility clearly assigned to qualified and capable staff, and with external audit to ensure proper fiscal management. Base policies on best-practice models, including financial governance, signing authorities, roles for audit/finance committees, and controls for financial approvals. Establish transparency for the Board, funding agencies, and the public at large.

***Disaster Recovery***

Risk – Failure of the technology and data management systems.

Mitigation – Establish and maintain an up to date disaster recovery plan. Define corporate and technology provider responsibilities and describe how operations will be continued in the face of loss of information or systems. Significant work to align data privacy, support providers and staff responsibilities will take place.

***Staffing Overload***

Risk – Workload exceeds staff compliment.

Mitigations – Seek Board approval and funding for additional resources. Scale back operational activities as required.

# PROJECT MANAGEMENT

*AGora* will deliver multiple projects. Initial work will focus on establishing the company, defining and initiating pilot projects, and building requisite delivery capabilities. Once established a full range of programs, community engagements and values will be delivered.

Full corporate accountability supports overall project management. Staff will manage projects in accordance with Executive and Board direction. The latest and most efficient project management system – Lean/Agile – will be used to deliver project success.

## 1. Lean/Agile Project Management

Delivery will be enabled using the well Lean/Agile implementation framework. This management approach is widely adopted in technology sectors - requirements and solutions evolve through the collaborative effort of self-organizing and cross-functional teams and their customer/end user. In *AGora's* case, Agile implementation teams will emerge from those who have been engaged to develop the Strategic Plan. Additional members will develop from this core.

Agile development methods break product development work into small increments that minimize the amount of up-front planning and design. Iterations (or sprints) are short time frames that typically last from one to four weeks that deliver that increment of work. Each iteration involves a cross-functional team working to deliver all project requirements. At the end of the iteration a working product is demonstrated to stakeholders. This minimizes overall risk and allows the product to adapt to changes quickly. See also <https://www.scaledagileframework.com/agile-release-train> for detail. Work within each Value Stream will be based on the following practices, or Agile Release Train:

- The schedule is fixed – The Value Stream will start at a known time and solutions will be delivered in set increments, aligned with other dependencies, on a reliable schedule.
- A new increment begins every four weeks – Each Value Stream will demonstrate its work to users, stakeholder and other teams at the end of each increment. This solution demo will provide a way to evaluate the working solution with all the teams.
- Priorities are revisited and synchronized across all teams every six to eight months – The next increment of work in each Value Stream will have common start and end dates for all teams within it.
- The Value Stream has a known velocity – Team and Value Stream velocity will be determined using estimation techniques and aggregated so the total capacity for work is understood.

*AGora* will use an iterative process to create a deep understanding of the desired outcomes identified in the Strategy Roadmap, to rank work activities, and to deliver value as the Value Streams are created. Each team will be led by a leader who is accountable for the team process, events, artefacts, and deliverables. Team members will learn and apply practices from recognized continuous improvement disciplines (Scrum, Kanban, etc.).

It will take some time for teams to become fully functional. *AGora* will initiate delivery by contracting a service provider who is familiar with *AGora's* work.

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### **Value Streams**

AGora's five-year plan is based on four Agile Value Streams (see FINANCIAL chapter) and associated delivery plans constructed from outcomes in the AGora Strategy Roadmap. Each Value Stream will develop solutions that benefit the end user. Work has been ranked and scoped in the five-year plan, attached. Priorities will be assessed further when six-month workplans are developed. Value Stream workplans will be developed through a face-to-face planning event every six to nine months. The status of work underway will be demonstrated and evaluated at that time. Teams and management will identify improvement backlog items in a structured, problem-solving process.

Each Value Stream will be resourced by at least one team, with team skills, experience and capability focused on a key value outcome. Each team will have an Outcome Owner and Team Leader. Each team will deliver solutions focused on ranked business cases approved in a large group workshop. They will be charged with meeting objectives and delivering outcomes in line with the business case.

### **Six-Month Workplans**

Teams will work to achieve six-month workplans. Each team is responsible for its own plan. Dependencies, risks, performance, resources, and specific deliverables will be outlined in each plan. Each team – working with other stakeholders – will incrementally develop, deliver, and (where applicable) operate one or more solutions in a Value Stream. Where multiple teams are assigned to a Value Stream, they will be mandated to plan, commit, develop and deploy together. Teams will be cross-functional and will include all capabilities needed to define, implement, field test, and operationalize solutions.

### **Team Structure and Roles**

Each Agile team will have five to nine people and will be anchored with permanent staff from AGora and members of the Design Team. Additional positions will be filled with contract resources, volunteers, or resources borrowed from other organizations. Volunteerism will be considered where appropriate. Recruiting the required skills, experience and expertise will be essential to create a capable delivery engine. Team training and orientation related to each challenge will take place to on-board team members and ensure they are effective.

In the first six months teams might include only two to three people. These people will work together to recruit and find others with the best mix of skills and availability to augment their capability. This recruitment process will be overseen and aided by the new Board and management team. Agile delivery will enable the following positions and responsibilities:

- The Team Leader is a unique Agile team member focused on helping other team members communicate, coordinate, and cooperate. This person will assist the team in meeting its delivery goals. They will act as a servant leader who helps teams self-organize, self-manage, and deliver results using effective Lean-Agile practices. The Team Leader will support and enforce Agile processes and other rules to which the team has agreed. They will coordinate with other teams and will communicate the status of their work to management as and when needed.
- The Outcome Owner will drive individual delivery. They will author each business case and will receive a go/no-go decision on the proposed work. After acceptance the Outcome Owner will work with the Agile Team to deliver all activities required to realize business value. After initiation, the Outcome Owner will

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have the ongoing responsibility to steward and follow up with the team on the work. Once the work is completed, the Outcome Owner will turn their attention to the next high-priority action and outcome.

## 2. Investment Scope, Scheduling, Sequencing, and Dependencies

Project spending and investment decisions will be based upon a full delivery of Agile scoping, scheduling, sequencing and identification of dependencies. This will ensure that risks to project delivery are identified in advance, mitigations developed, and investments approved. AGora's Agile delivery and financial oversight methodology will rely upon constructive planning workshops to define work flow, investment requirements and scheduling and team synchronization. At the core will be effective use of funds to deliver the identified product in a timely, efficient and cost-effective way. Please refer to the FINANCIAL appendix for full details.

## 3. Managing Resources

### *Human Resources*

AGora will seek commitment from community organizations and special interest groups to provide the human capital required to support its work. It has dedicated the Connecting Peoples, Technologies and Farms Value Stream to engaging with the community to recruit, attract and retain resources for Working Groups and Teams.

### *Infrastructure & Investments*

Smart infrastructure projects will provide the foundation for AGora's program delivery. Components are connected and generate data that will be used intelligently to create value in the region. The following investments will be made with the smart cities funding:

- **Infrastructure Connectivity:** AGora will invest \$1.5M to improve the infrastructure to connect farms through partnership and pilots with new service providers and seek to at least match these funds.
- **Direct Economic impacts:** AGora will spend \$5.0M over five years within the communities it is working.
- **Social license to Engage and Innovate:** AGora will spend \$0.75M over five years engaging the community in this challenge.
- **Improving Farm efficiencies through Technology:** AGora program will invest and leverage \$1.25M to improve farming practices through the application and deployment of Technology solutions.
- **Farming Data Investment** AGora will invest \$0.50M to build, analyze and curate the data flow from farms and turn it into an asset.

### *Financial Resources*

AGora will employ a budgeting process that combines annual budget development for ongoing AGora operations (staff, overhead, support, pension, etc.) with a 'Lean' budget development approach that supports delivery of project value streams, pilots and specific development initiatives. This alignment will deliver necessary links to outcomes-based project implementation and necessary funding through the Smart Cities Challenge initiative. Full details are outlined in the FINANCIAL appendix.

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## Procurement Strategy

AGora's procurement strategy is modelled on Agile best practices and will be supported by full oversight provided by AGora's Chief Financial Officer. Full detailing of the process to procure materials, labour, etc., for agile delivered projects is identified in the attached FINANCIAL appendix.

## 4. Managing Stakeholder Engagement

As part of ongoing operation AGora will staff and deploy resources as part of the Value Stream – "Connecting People, Technology and Farms", as described herein.

## 5. Progress Monitoring and Course Correction

Monitoring, controlling, and reporting strategies and checkpoints for contingencies and any necessary course corrections are identified in PERFORMANCE MEASUREMENT chapter.

## 6. Related Initiatives Already Underway

We are aware of sustained, long term activities underway in the four Counties for some years regarding the installation and commissioning of numerous tower and mobility based broadband improvements. The continued commitment and funding of a Connected Communities Program Manager and the infrastructure they are deploying in Parkland County is a demonstration of this on-going support. Investment over the past three years is estimated to be \$7.6 million (to December 2019), with a combined four-county estimate exceeding \$12 million.

We also know that the Province of Alberta is deeply interested in this subject and have announced the completion of a province-wide Broadband Strategy by sometime in 2019. Moreover, Alberta's SuperNet assets have been sold to Bell and they are in the process of determining their provincial wide strategy to capitalize on that purchase.

The proponents have demonstrated a large and encouraging interest in this initiative. They have a full complement of committed volunteer and municipal partners interested in pursuing these initiatives, alongside a substantial number of potential partner organizations – private companies, governments, academic institutions and community groups.

They will be the horse power we will engage with to deliver on the promise of AGora.

## 7. Sustainability

The proponents will develop methods to ensure, to the extent feasible, the long-term sustainability of AGora. This will be needed to ensure the on-going improvements in rural prosperity in the four Counties and will be necessary to effect scalability and transferability to other Canadian rural regions.

New Integral Strategy Labs™ are planned with the Technology Working Group to springboard from what's been learned to date and also to future proof the technology offerings available. We plan two additional Strategy Roadmap™ processes – first with the farmers, the community and the youth participants to build on and accelerate the Rural Culture of Innovation. A second Roadmap™ process is planned with the Board and AGora's corporate partners / participants to build on the evolving

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business model and to consciously design a more robust “Pre-competitive co-design, co-development model” to accelerate innovation and commercialization opportunities.

Finally, while we are not yet able to estimate the scale of the following, we have identified a number of key on-going revenue streams that will be realized as *AGora* takes root and scales up:

- We have secured, via the Data Trust, the foundation for an on-going revenue stream from the data that will be collected, curated and made available – it is expected this revenue stream will grow substantially over time as the data set becomes larger, more comprehensive and more valuable;
- We will realize advertising revenues from appropriate Banner Advertising that will be sold on *AGora*’s Regional Commerce Lab;
- We will, from the onset, negotiate with private companies, a pay-to-participate model to allow their access to our innovative testing environment for the purposes of their developing solutions to hyper-local challenges for *AGora* that also have wide-spread commercial application and value;
- We will negotiate shared Intellectual Property right fees from companies that use *AGora* data and its test bed to develop new products they then commercialize;
- We expect to have *AGora* deliver valuable services on behalf of its County partners which will enable them to avoid delivering duplicates services. We anticipate they will contribute funds to *AGora* for those joint, and more effective, delivery of services; and
- Finally, through the retention of an on-staff Grant Writer, *AGora* will be the recipient of numerous Innovation Grants from a number of governmental and philanthropic sources.

## 8. Risks and Mitigations

*AGora*’s proposed corporate structure inherently manages risk – duties, structure, planning processes, policies, regulations and overall accountability processes both assign responsibility and contain risk. The GOVERNANCE chapter fully articulates roles relative to how projects will be managed, deployed and delivered. Specific to projects, risks will be identified and assessed, enabling decisions to be made about the extent and nature of appropriate interventions. This will be done with stakeholders.

### *Interventions*

Project risks will be evaluated using a scoring system to assess their impact and likelihood of occurring. There are four possible responses:

- Elimination – Where possible, we will act to eliminate the risk.
- Acceptance – When the severity of a risk is lower than our threshold of risk tolerance, we may decide to do nothing about it unless it occurs.
- Mitigation – When the severity of a risk is above our level of risk tolerance, we will act to reduce its impact or the probability of it occurring. The objective is to reduce its severity below our threshold of risk tolerance.
- Transfer – We may decide to move responsibility for a risk with the potential to impact a project to someone outside of that project. The risk does not disappear, but another party becomes accountable for dealing with it.

Each Team will maintain a Risk Register. Accountability for ensuring risks are appropriately managed will be maintained at the overall program level.

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# PERFORMANCE MEASUREMENT

Performance measurement is fundamental to understanding when/how/if success is being achieved. The following describes how progress will be measured and reported, and funding enabled.

The Strategy Roadmap underpinning this proposal defines in detail the full range of strategic outcomes to be met over the initial life (5 years) of the company. To deliver these outcomes, AGora will:

- Focus on delivering its strategic roadmap by creating long-term goals that define where it ought to go and how to get there
- Understand the environment in which it operates and anticipate how this is likely to change to ensure it continues to meet the needs of stakeholders
- Create a strategic agenda with a future orientation that promotes the long-term sustainability and performance of the organization, aligned with its strategic direction
- Develop business plans that ensure cross-organizational alignment
- Establish a community wellness index to capture the less quantifiable goals like mental health, aging in place and youth attraction.
- Focus on, and measure results and use those results for resource allocation and continual improvement

## 1. Why, What and How

AGora's Performance Measures are consistent, integrated and aligned. They deliver clear accountability to achieve results, from senior management to the front-line.

Our approach is based on the fundamental premise that performance measurement, performance management, and the strategic intent of AGora must be aligned. The measurement system is simple, spare, and meaningful, and informed by knowledge of how the work of the organization is aligned with strategic intent – answering the questions WHY (what is our purpose?); WHAT (what outcomes need to be produced to achieve it?); and HOW (how will these outcomes be achieved?). From this, specific measures, milestones and payment schedules can be developed, implemented and monitored.

Appropriate, relevant, aligned and linked performance measures have been established to create a comprehensive Performance Measurement Framework.

## 2. The Strategy Roadmap Foundation

The Strategy Roadmap developed by the Design Team is the foundation to the Performance Measurement Framework, and will be further refined in the first implementation phase. Visualizing strategy on a single page, the Roadmap map answers the three critical questions: WHY, WHAT and HOW, with the strategic goal located in the centre of the Roadmap. Impacts linked to achieving the goal are identified on the right. Outcomes that contribute to achieving the strategic goal, and actions required to create these outcomes, are located on the left. Once the Roadmap was done, performance milestones, schedules and payments were linked to the outcomes. They were defined by:

- Identifying outcomes in the map as leading and lagging indicators of performance
- Identifying candidate measures for these outcomes
- Choosing an appropriate metric for each measure

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- Defining the process used to collect and report these metrics
- Defining accountabilities for measurement and reporting
- Documenting the chosen measures and their purpose and use
- Identifying requirements for ongoing maintenance including provisions for modifying the framework as strategic direction and business plans change

Accountability is assigned for every action, and implementation is actively managed by monitoring outcomes. Each stakeholder sees where their contributions complement the contributions of others to achieve the strategic goal. The Strategy Roadmap enables an ongoing focus on outcomes during implementation. By bringing clarity to strategic goals and identifying the actions and outcomes required to achieve them, the map define risks and increases the likelihood of delivering results.

### 3. Design Considerations

Six questions have been considered in designing the performance measurement framework.

#### 1. Where Will We Measure?

Since the objective is to evaluate how well *AGora* is achieving its strategy, we will measure performance across the entire Strategy Roadmap, with metrics in every capability area. Information will be collected and used to assess progress and adjust the strategy to produce the intended results. If an expected outcome is not being achieved, additional actions or a modified approach will be assessed. If outcomes are delayed due to delays in project delivery, the appropriate response may be to add additional resources or adjust a project timeline.

It is not necessary or desirable to measure every outcome. Rather, a subset of outcomes will be measured that confirm progress – including early, middle and late outcomes in the Strategy Roadmap. Early outcomes — the immediate results of an action — will be monitored to see if actions are having the desired effect. Middle outcomes – representing the combined effect of multiple preceding outcomes – will be monitored to verify that *AGora* is on track to develop capabilities needed to achieve its strategy. Late outcomes will be monitored to verify that it is on track in achieving the strategic goal.

#### 2. What Will We Measure?

When selecting metrics, rigor has been balanced with ease of measurement. The objective is to maximize utility while minimizing effort. By their nature, some outcomes are *verifiable*. That is, they are either achieved or not achieved (the intended product is produced or not produced). Other outcomes are *quantitative* in nature and are achieved by degrees. In this case, we can ask how much or to what degree an outcome has been achieved. Where an outcome is not easily measured, we will consider using a surrogate that can be more easily obtained.

#### 3. How Will We Measure?

Measurement options include:

- A management checkpoint that verifies a project has been completed and the expected deliverables have been created successfully
- Quantitative measurement of a variable that specifies the degree to which the outcome has been increased or decreased, has been eliminated, or is being maintained at a specified level

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- Survey questions based on well-structured rubrics designed to gather external stakeholder input.

#### 4. When Will We Measure?

Frequency of measurement has been considered. Measuring more frequently increases the effort and cost required to collect, manage and report performance. Measuring less often reduces visibility and introduces delays in taking corrective action where measurement identifies a problem.

#### 5. How Will We Manage the Information?

Performance measurement is not a one-time activity. Systemic change is realized over time, and trends are significant. Measuring over time, we expect to see progress toward achieving early outcomes, then middle outcomes, and finally late outcomes. We will implement a repository that stores performance measurement data for AGora that allows us to track these trends.

#### 6. How Will We Report the Results?

Information extracted from the performance database will be reported for different purposes and in a variety of ways. The Strategy Roadmap itself can be used as a communication tool and performance dashboard, highlighting progress and areas where intervention is needed.

### 4. Realizing Outcomes

To ensure delivery occurs on time, on budget and with competency, a complete financial plan and delivery program has been created. Refer to the FINANCIAL appendix for full details. Core to this is identifying the milestone and deliverables necessary to monitor progress. Summary detail follows, with full links to financial performance described in the appendix.

Broadly, delivery is divided into two phases:

1. Phase 1 will establish the necessary corporate capabilities to house AGora and its services.
2. Phase 2 is delivery and operations, with initial focus on defining and delivering the requisite pilots to enable hyper-local data collection and rural connectivity, alongside data collection, community enablement, creation of the full spectrum of web-enabled services and ultimately monetization of the data and systems created.

A full delivery plan is articulated in this proposal, specific to the development of internal capacity and the delivery of four 'value streams' that bring life to the company and deliver the large number of technology development initiatives identified herein.

As the end of the five-year period approaches attention will expand to include positioning of the values developed in AGora for deployment and adoption on a Canada-wide scale. Refer to the PROJECT MANAGEMENT chapter and the FINANCIAL appendix for full detailing of the work plans, milestones, outcomes and specific phasing.

By way of example, the full set of outcomes, costs and performance measures are provided, below, for Phase 1. Detailing of how the four full value streams will be achieved is outlined in the FINANCIAL appendix, and linked to the phased delivery plan, funding requirements and the milestones/metrics proposed to monitor progress.

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**Measures: Phase1, The Readiness Phase**

In order to move from the state of "Proposal Approval" to a working and functioning AGora, a six-month readiness phase is outlined. Its main focus is to launch the organization and establish the change program.

The following detailed plan outlines this program in four iterations. Included in the boxes are Action-Outcome deliverables needed to be delivered to prepare the Value Stream for the next 6 months of work. During Iteration 4 the next large group planning session for the following six-month will be conducted. Phase 1 establishment will be achieved through 4 Agile cycles, each delivering progressively more detail and product. (Larger graphics included in the FINANCIAL appendix)

This phase is expected to take approximately 6 months, with all necessary and well-understood complexities of Agile-framed implementation defining the actual time for completion. This is reflected in the outcomes identified and the costing/revenue receipt processes to be negotiated with Canada that will underpin delivery.

**5. Monitoring Progress**

Using a measure-to-manage approach will allow AGora to respond quickly to results of a performance evaluation. For example, based on a report of positive performance, AGora will consider assigning more resources to programs that are generating products of significant and expressed value to stakeholders. Less favourable results, on the other hand, may lead to the decision to cancel a program, or to change a program so it produces outputs that are more relevant to stakeholders. The feedback loop supported by performance measurement enables continuous improvement.

**6. Achieving Impact**

While a \$10M funding infusion will provide AGora with significant ability to influence actions across the four counties, many of the longer-term impacts will be influenced by multiple external factors outside of AGora's direct control. They will depend on achieving widespread adoption and behavioral change.

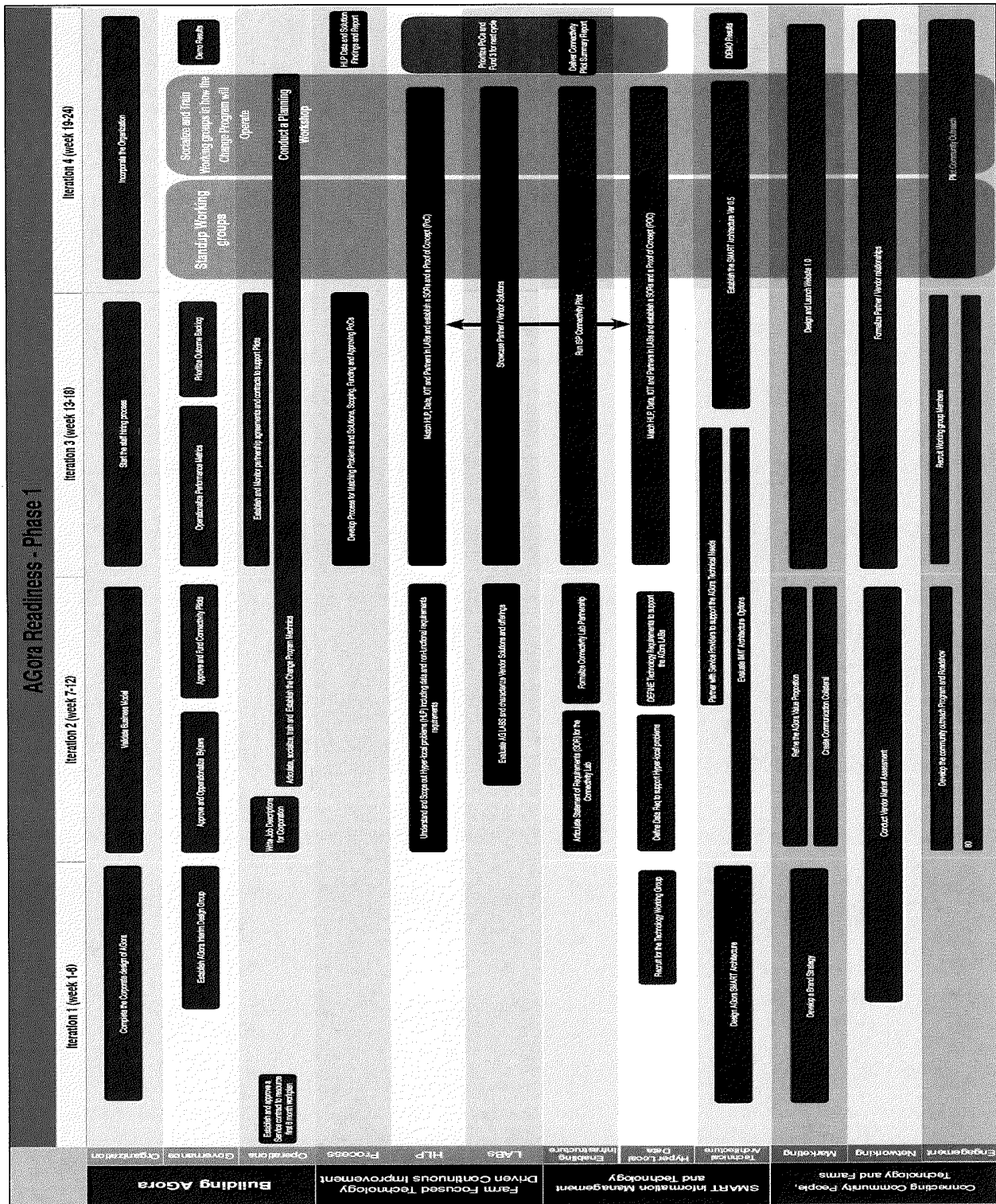
AGora recognizes these challenges and clearly distinguishes in the Strategy Roadmap between outcomes that are within the control of the organization and its partners, and much wider societal, environmental, and economic impacts that will accrue through community uptake. The ultimate impact is "*Prosperity in Rural Canada Increases.*"

We will take a number of steps to increase community adoption and promote the required behavioral change, including the following:

**Promoting Opportunities in a Renewed Agriculture Sector**

AGora will promote region-wide, province-wide and ultimately nation-wide discussion of the opportunities linked to a renewed agriculture sector, creating broad awareness and understanding of a new future for rural Canada.

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### ***Supporting Early Adopters***

Change will be led by those who see a new future. *AGora* will engage early-adopter farmers and business leaders and deliver value for them. They will become advocates for change based on their own experience, testifying how emerging communications technologies, data, and decision tools make farms more productive and profitable. This will broaden understanding and increase uptake.

### ***Delivering Financial Benefits***

*AGora's* business model envisages the collection, curation and monetization of data with and on behalf of the farmers and businesses involved. Direct financial benefits will be delivered in multiple forms (better farm practices, improved decision making, revenues from the use of data provided, etc.). In short, by participating in *AGora* farmers and local businesses will benefit financially.

This is expected to incent participation, enhance the value of the data collected, and increase revenue. A virtuous circle is created. Financial wealth should increase social resilience and collective investment in environmental sustainability – a much larger virtuous circle that underpins prosperity overall.

## **7. The Performance Measurement Framework**

The measurement framework links the capabilities, outcomes and actions defined in *AGora's* Strategy Roadmap to performance measures. Data sources are identified. Key capabilities defined by the Design Team support outcome and measure. As capabilities are established and refined, greater certainty on how their linked outcomes are being achieved is defined through specific measures. In turn, these measures support payment through the outcomes-based approach being piloted by Smart Cities. *AGora* is pleased to be part of this leading-edge initiative to create a project delivery model based upon outcomes, and looks forward to establishing best practices that can be used Canada-wide.

## **8. Risks and Mitigations**

*AGora's* proposed corporate structure inherently manages risk – duties, structure, planning processes, policies, regulations and overall accountability processes both assign responsibility and contain risk. The GOVERNANCE chapter fully articulates roles relative to how *AGora* will achieve results. While using the performance measurement system is not designed to be onerous, knowledgeable and skilled resources will be required to obtain the greatest benefit. From a business perspective, knowledge of the data structures and familiarity with the analytical and reporting tools will be most important. Competent technical support – particularly in database administration – will be essential.

Reporting performance measurements transparently will make a strong statement about accountability to stakeholders. Transparency will encourage dialogue with stakeholders about opportunities to make *AGora* more effective and will help to encourage a more collaborative effort among stakeholders to improve how it works.

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AGORA OUTCOMES			
BUILDING AGORA			
Roadmap Capability	Key Outcome	Source	Performance Measures
Governance	Independent governance is established	AGora checklist of governance requirements	Progress in implementing independent governance
Governance	The corporate structure and supporting practices are put in place	AGora checklist of structural elements and supporting practices	Progress in implementing structural elements and supporting practices
Governance	Corporate monitoring and reporting is implemented	AGora checklist of monitoring and reporting requirements	Progress in implementing monitoring and reporting requirements
Governance	Performance measurement tools, metrics and processes are established	AGora checklist of required measurement tools, metrics and processes	Progress in implementing measurement tools, metrics and processes
Operations	AGora staff and expertise support long term delivery and growth	AGora checklist of required staff positions and expertise	Progress in implementing staff positions and expertise
Sustainability	AGora is economically sustainable	AGora checklist of sustainability requirements	Progress in implementing sustainability requirements
Scalability and Transferability	AGora is replicable	AGora checklist of required standards, tools and processes to enable replicability	Progress in implementing standards, tools and processes to enable replicability
AGORA OUTCOMES			
FARM-FOCUSED TECHNOLOGY-DRIVEN CONTINUOUS IMPROVEMENT			
Capability	Key Outcome	Source	Performance Measures
Deliverables	New technologies for data-driven agriculture are used by farmers	AGora checklist of technologies for data-driven agriculture to be implemented	Progress in implementing technologies for data-driven agriculture
		AGora statistics	Adoption trends
		AGora survey	Structured feedback from users on their adoption of technologies for data-driven agriculture, satisfaction levels, and benefits received
Deliverables	Value added agriculture services are integrated	AGora checklist of value-added services to be integrated	Progress in integrating value-added services
		AGora statistics	Adoption trends
		AGora survey	Structured feedback from users on their adoption of value-added services, satisfaction levels, and benefits received
Deliverables	AGora initiatives solve hyper-local problems	AGora checklist of hyper-local problems to be addressed	Progress in defining and baselining the identified problems, matching them with solutions, and deploying solutions
		AGora statistics	Adoption trends
		AGora survey	Structured feedback from users on their adoption of solutions, satisfaction levels, and benefits received
Deliverables	Farms are more productive and profitable	AGora survey	Structured feedback from farmers on changes in productivity and profitability of their farm
Deliverables	The environmental footprint of farms is reduced	Third-party data	Statistics on farm productivity and profitability
		AGora statistics	Waste reduction data
		AGora survey	Structured feedback from farmers on progress in waste reduction
		Third-party data	Regional waste reduction
AGORA OUTCOMES			
SMART INFORMATION MANAGEMENT AND TECHNOLOGY			
Capability	Key Outcome	Source	Performance Measures
Technology	Infrastructure investments fill connectivity gaps in the region	AGora checklist of prioritized connectivity projects	Progress in completing prioritized connectivity projects
		AGora statistics	Visual map showing connected areas of the region and remaining gaps
Technology	AGora is underpinned by state-of-the-art infrastructure	AGora checklist of required infrastructure	Progress in completing required AGora infrastructure
		AGora statistics	Availability statistics
		AGora survey	Structured feedback from users on infrastructure performance, satisfaction levels, and benefits received
Data Integrity	Farm data is collected and used	AGora statistics	Volume of data captured and used, and the nature of use
Data Integrity	AGora data products are valuable	AGora checklist of required data products	Progress in implementing the data products
		AGora statistics	Use of data products by type
		AGora survey	Structured feedback from farmers, partner and vendors on the data products they use, satisfaction levels, and benefits received

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Data Integrity	AGora technology supports data-driven agriculture	AGora checklist of required technology	Progress in implementing technology
		AGora statistics	Use of technology by type
Deliverables	AGora provides an R&D Environment	AGora survey	Structured feedback from framers on the technology they use, satisfaction levels, and benefits received
		AGora checklist of required functionality	Progress in implementing the required functionality
		AGora statistics	Nature of R&D, number of R&D hours, and AGora capabilities used
		AGora survey	Structured feedback from researchers that they have the capabilities they need, satisfaction levels, and benefits received

**AGORA OUTCOMES****CONNECTING PEOPLE, TECHNOLOGY AND FARMS**

Capability	Key Outcome	Source	Performance Measures
Collaborators	AGora creates a network of collaborators that includes First Nations, environmental groups, Provincial and Federal Government, the private sector, social sector	AGora statistics	Number and type of collaborators, trends, and the nature and level of their collaboration
		AGora survey	Structured feedback from collaborators on their motivation to collaborate, the nature of their collaboration, satisfaction levels, and benefits received
Collaborators	AGora partners are recruited, trained and serve as Ambassadors	AGora statistics	Number and type of partners, trends, and the nature and level of their participation
		AGora survey	Structured feedback from partners on their motivation to partner, the nature of the partnership, satisfaction levels, and benefits received
Collaborators	AGora attracts champions and early adopters	AGora statistics	Number and type of champions and early adopters, trends, and the nature and level of their participation
		AGora survey	Structured feedback from champions and early adopters on their motivation to enroll, satisfaction levels, and benefits received
Marketing	AGora attracts new users to its programs	AGora statistics	Number and type of users by program, recruitment trends, volume of use
		AGora survey	Structured feedback from users on their motivation to connect with AGora, satisfaction levels, and benefits received
Marketing	The community engages with the AGora program and is involved in its implementation	AGora statistics	Human resources shared, physical resources shared, funds committed to initiatives
		AGora survey	Structured feedback from community members and organizations on the nature of their involvement and their intention to become involved
Marketing	Success stories are routinely communicated to the AGora network	AGora statistics	Communication materials developed, frequency, communication channels used
Marketing	There is broad awareness of AGora's mission and accomplishments	Web statistics	Website visits, product downloads, number of followers on social media
		AGora survey	Structured feedback from community members, partners and prospects on their level of awareness of the AGora and its accomplishments

**AGORA IMPACTS****REGIONAL BENEFITS**

Domain	Key Impact	Source	Performance Measures
Economy	The regional economy is strengthened	AGora survey	Structured feedback from farm operators and regional businesses
		Third-party data	Regional economic growth, employment statistics, new business creation
Community	Community is strengthened	AGora survey	Structured feedback from community members
		Third-party data	Community demographics, key social indicators
Environment	Environmental quality is improved	AGora database	Aggregated farm data
		Third-party data	Key environmental indicators
Food Security	Food security is increased	Third-party data	Annual cost of food for the average family in the region

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# DATA AND PRIVACY

*AGora* will create and securely manage data on behalf of all data providers. Significant effort has delivered what we believe to be the most effective means to protect these data. Protecting it in ways that build confidence by data providers that the data are, in fact, protected, and providing a fully secure means of supporting use of the data by multiple end users.

Key issues related to open data, sensitive data, data security and data monetization on behalf of the data providers, and others, are outlined in this chapter, the TECHNOLOGY chapter and the TECHNOLOGY confidential annex.

## 1. Integration of Security and Privacy Considerations in Project Design

*AGora* will become a Data Trust enabler, working with data producers and consumers to help them to reap the rewards and value from their data assets while contributing to regional and national understanding of Canadian agriculture. Deployment will position the four counties as global leaders in managing and using agriculture data. Further, this platform will deliver system security, control over assets and will assure privacy of materials held.

A Trust in the traditional sense of the word is a three-party relationship in which an asset or value is transferred from a Grantor to a Beneficiary through a Trustee. This “three-node” network creates a trusted relationship between the parties whereby assets can be shared or transferred based on the governance rules of the trust.

A Data Trust takes this concept further and establishes a governance framework – an architecture and supporting technology infrastructure to enable sovereignty and ensure trust related to the data and derivative data assets. It provides a framework for stewardship over these assets for the benefit of the people or organizations in the Trust. Members of the Trust have control and sovereignty over their data assets and relationships between data partners.

The Data Trust includes deployment of distributed software infrastructure that enables data partners to securely share and exchange data with proper equitable and transparent policies and governance structures, while creating a fair balance of power and control between those who produce the data (citizens and clients) and those managing the infrastructure, or processing and using the data.

Importantly, the technology deployed enables control and flexibility in rules and guidelines. It is not prescriptive in forcing specific governance methodologies, nor does it force any data localization methodologies. Members of the *AGora* Data Trust will establish the terms under which data will be used, shared, generated and monetized to meet their needs.

## 2. Guiding Principles for Data

Data governance is one of the most important public policy issues of our time. Data is the new enterprise currency. It is ubiquitous, and data stockpiles are proliferating. Data collected by the private sector and governments underpins decision-making and boosts economic productivity and

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competitiveness. Protection of this data is central to our long-term prosperity and the preservation of public trust across society.

### **Data Governance**

When data is properly governed, a fair balance of power and control exists between data producers and those who manage technology infrastructure, processing, and/or deployment capabilities. More specifically, an open, transparent and robust Data Trust is required to reap the economic and social prosperity benefits from artificial intelligence – a game-changing invention in which Canada has played a leading role. On a national level, Canadian data should be governed by Canadians.

A Data Trust helps ensure data belongs to and is governed by those who create it. It establishes a governance framework, an architecture, and the supporting legal and technological infrastructure required to enable sovereignty and ensure trust over the data and derivative data assets. It provides a binding framework for stewardship over the data assets for the benefit of the people and/or organizations in the Trust.

### **Data Accessibility**

The Sightline Innovation Data Trust (SID) is the only Canadian artificial intelligence software that creates a circle of trust for data. It enables flexible, transparent, and precise policy definition for all data shared among partners. Additionally, it will provide compliance assurance of policies for both data exchange and data usage. It manages membership changes and policy updates in a Trust while ensuring authenticity of messages and members within the Trust. Lastly, it manages remuneration and value transfer of data that is processed and exchanged between producers and consumers.

### **Data Security**

Included in the governance structure of the Data Trust is the requirement to use industry best practices for data security. The Trust also ensures that all legislative requirements regarding data and privacy, both provincial and federal, are met.

### **Consent**

Consent is integral to the Data Trust. All members, by virtue of being part of the Trust, consent to the terms and governance structure of the Trust. Furthermore, the Data Trust will provide distinctions in governance between data and personal information to provide additional layers of consent.

### **Data Minimization**

Data minimization is typically practiced outside of a Data Trust to limit or reduce exposure to data misuse and/or theft. The Data Trust allows members to maximize their data production in a sovereign and secure manner for monetization purposes. Data is disseminated to consumers (researchers, the private sector, members of the Trust, etc.) to extract value through a secure channel that supports effective data standards, compliance, security and auditing.

### **Data De-Identification**

The Data Trust technology creates synthetic datasets to ensure complete privacy. This creates anonymized features of the real data for analysis – not traceable to individuals or companies. This can

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be done at the farm level and shared within the trust. Full audit trails and tracking of data usage and derivative data usage within the trust is possible through a distributed ledger and smart contracts.

### 3. Management of the Data Life Cycle

The Data Trust technology creates an agreed upon structure for management of the data life cycle (creation, storage, use, monetization, derivative data creation and use, derivative data monetization, etc.). Specific details governing the data life cycle will be established in conjunction with members of the Trust. This ensures the structure of the Data Trust meets the needs and goals of the members as well as addressing any local requirements. Industry best-practices will guide governance development and inform the processes used for data life cycle management.

The design architecture contemplates and addresses key concerns linked to data collection, analysis storage and transmission, to name a few.

### 4. Open and Big Data Strategies

Open data is important for innovation. It also is an important part of building trust with citizens. AGora's data trust does not force specific governance rules – it will build them with the data providers. Therefore, closed data, open data or hybrids of the two are all compatible with the trust architecture. In fact, Data Trusts enable open data to be executed properly and at scale. Additionally, Data Trusts enable data to be verified prior to being made open and allow the use of that data to be tracked. As a consequence, open data is stronger and more scalable.

### 5. Compliance with PIPEDA and Other Privacy Regimes

Jurisdictions like India and the European Union have sought to cement data and citizen's rights to privacy as a "fundamental human right." Data movement and control of data has been a leading public policy priority for Europe for nearly a decade, culminating in development of the General Data Protection Regulation (GDPR). Countries have recognized the growing conflict between the value of data and individual privacy and consent. According to the European Commission (EU), by 2020 the value of personalized data will be 1 trillion Euros – almost 8% of the European Union's GDP.

The Canadian Federal government is forming a National Data Strategy. Data use and privacy are defined in the Personal Information Protection and Electronic Documents Act (PIPEDA), the Canadian law relating to data privacy. This governs how private sector organizations collect, use and disclose personal information in the course of commercial business. The General Data Protection Regulation (GDPR) came into effect in Europe on May 25, 2018. This is viewed as a significant update to traditional data regulations, for it defines basic rights for an individual (the "data subject") over their personal data. This has put much greater control into the hands of users and more accountability on businesses that violate the legislation.

The Data Trust enables the participants to define access to data, whether it is personal or non-personal. It does not prescribe or presuppose any rules or regulations. The proposed technology-based solution will establish the means through which GDPR or other regulations are automatically enforced.

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## 6. Transferability and Replicability of Technologies and Projects

The Data Trust is readily scalable. Other groups in different geographies can be added as a node to AGora's Data Trust. Alternatively, the Data Trust can be replicated for other regions so there is alignment in terms of data sovereignty and the freedom to meet local and/or provincial requirements. Regulations around food inspection, for example, may differ between provinces. This could impact goals or user requirements of the Data Trust in other regions.

## 7. Risks and Mitigations

Of fundamental importance is the protection of data and related privacy of information. AGora's proposed corporate structure inherently manages risk – duties, structure, planning processes, policies, regulations and overall accountability processes both assign responsibility and contain risk. The GOVERNANCE chapter fully articulates roles relative to how data security will be managed, deployed and delivered. Central to this are the staff that will be employed – the CTO and others – and the several Policy Frameworks identified in this proposal that will be created in support.

This chapter describes in full both the technology providers proposed for partnership, their security structure and the technology base inherent that will protect data. Central to this is the Data Trust. Guiding Principles establish the foundation upon which risks will be identified, managed and mitigated. Disaster recovery plans, data security, and other will be built from this base, vetted by Executive and ultimately approved by the Board where appropriate.

## FINANCIAL

In line with the competition guidelines, a budget has been developed that will fully invest upwards of \$10M to be made available over a five-year delivery period.

The following budget detail is provided by phase (establishment/operation), value stream, and year. Value streams are modelled on Lean/Agile methods, and key initiatives grouped thematically.

### 1. Project Budget

During the first five years, work will be delivered in two broad phases, with Phase 1 delivering necessary corporate capabilities to house AGora and its programs. Phase 2 is delivery and operations, with initial focus on defining and delivering the requisite pilots to enable hyper-local data collection and rural connectivity, alongside data collection, community enablement, creation of the full spectrum of web-enabled services and ultimately monetization of the data and systems created.

As the end of the five-year period approaches attention will expand to include positioning AGora for deployment and adoption on a Canada-wide scale. Refer to the PROJECT MANAGEMENT chapter and the FINANCIAL appendix for full detailing of the work plans, milestones, outcomes and specific phasing.

#### **Approach**

Delivery will be enabled using the well understood Agile implementation framework. This proven approach is widely adopted - requirements and solutions evolve through the collaborative effort of self-organizing and cross-functional teams and their customer/end user. In AGora's case, Agile implementation teams will emerge from those engaged to date, with the Strategic Plan, Strategic Design team and consultants involved establishing the core members that will create the company. Members, products, timelines structure and processes will develop from this core.

Significant financial detail is provided on Phase 1 - establish AGora corporate operations. This is intentional, as this is the first most critical phase. Moreover, once a Board of Directors and an Executive Team are in place, they will be expected to take an active role in defining how the following work will be achieved, in accordance with this initial plan.

Phase 1 establishment will be achieved through 4 Agile cycles, each delivering progressively more detail and product. This phase is expected to take approximately 6 months, with all necessary and well-understood complexities of Agile-framed implementation defining the actual time for completion. This is reflected in the outcomes identified and the costing/revenue receipt processes to be negotiated with Canada that will underpin delivery.

Phase 2 will maintain the Agile approach and philosophy. Delivery cycles will be defined and delivered to the newly constituted Board and Executive in advance of approvals to proceed.

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## 2. Financial Management

Fiscal oversight will be provided first through existing administrative support of Parkland County. Once AGora is established, a Chief Financial Officer will be employed and deliver Generally Accepted Accounting Principles (GAAP) processes to establish full financial accountability, including audited financial statements.

### **Budget Structure – Value Stream Summary**

The following budget summarizes investment by delivery Phase and Value Stream.

Value Stream	Phase 1	Phase 2	Total
Building AGora	2.4%	54.0%	56.4%
Farm Focused Technologies	0.3%	5.7%	6.0%
SMART Information Management	4.3%	26.3%	30.6%
Connecting People with Technologies	1.1%	4.5%	5.6%
Sub-total	8.1%	90.5%	98.6%
Total hardware (all phases/streams)			26.2%
Tax on hardware			1.3%
Total			100%

The FINANCIAL appendix attached provides full detailing on cost elements that are defined along the four Value Streams. These Value Streams consolidate functions into delivery requirements and deliver cross functional alignment.

1. Activities associated with establishing, staffing and running the company are grouped into “Building AGora” Value Stream.
2. Activities related to on-farm capabilities are housed in the “Farm Focused Technology” Value Stream,
3. The “SMART Information Management & Technology” Value Stream identifies all cross functional requirements to establish and maintain the systems that will underpin AGora, data trust and data oversight, as well as architecture design requirements.
4. The final Value Stream – “Connecting People, Technologies and Farms” lays out specifics on how community engagement and understanding will be achieved.

### **Building AGora**

This Value Stream is the core of AGora. It will deliver the organization that will anchor, lead and oversee all AGora work, including corporate design, organization, governance and operations. Initial work focuses on creating the company, defining bylaw, operations, policies, etc., that set AGora on a positive course. Operational costing reflects what is expected of a new firm – Human Resource, governance and operational requirements to deliver, pursuing additional partnerships and revenue sources and the like.

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### ***Farm Focused Technology Driven Continuous Improvement***

This Value Stream is the critical connection of AGora to the farms, farmers and communities that are volunteering as early adopters. It will establish the requisite capabilities for on-farm data collection and support software design and delivery through the first five years of AGora operations. Through discussion with early adopter farmers, the specific hyper-local challenges will be identified, appropriate data collection systems modelled and put in place, and a process to derive value from the data collected will be defined.

Fundamental to the success of this value stream is the participation of the early adopter farmers, proper framing of the problems to be addressed and the development of decision support tools that will flow back to the farmers to improve on farm decision making.

### ***SMART Information Management & Technology***

This Value Stream is AGora's technological backbone with three main themes: Connectivity infrastructure, hyper-local agricultural data and SMART architecture. This value stream consolidates the technology requirements to both establish AGora (GIS systems, etc.), pilots that will determine how other infrastructure (electric/gas) can be effective delivery agents for connectivity, data cleanup and overall proofs of concept tied to software that will deliver value to the data providers and beyond.

### ***Connecting People, Technology & Farms***

This Value Stream is the key connection between AGora and the community at large. It will establish AGora's brand and key value statements. Networking, marketing and engagement underpin activities. Delivery of a community engagement, community outreach and leadership development process is framed in this section. Branding, web management and social media are costed into this stream. A full marketing plan has been developed that will underpin initial activities of this stream.

## **3. Budget Structure – Annual Investment Summary**

Value Stream - Theme	Year 1	Year 2	Year 3	Year 4	Year 5	Total
<b>Building AGora</b>	\$ 794,050	\$1,188,100	\$1,254,603	\$1,216,643	\$1,189,234	<b>\$5,642,629</b>
<b>Farm Focused Tech Continuous Improvement</b>	\$ 56,000	\$ 100,000	\$ 127,500	\$ 155,000	\$ 160,000	<b>\$ 598,500</b>
<b>SMART Information Management and Tech</b>	\$ 420,000	\$ 630,000	\$ 685,000	\$ 675,000	\$ 650,000	<b>\$3,060,000</b>
<b>Connecting People Technology and Farms</b>	\$ 159,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	<b>\$ 559,000</b>
<b>SUB-TOTAL</b>	\$1,429,050	\$2,018,100	\$2,167,103	\$2,146,643	\$2,099,234	<b>\$9,860,129</b>
<b>Hardware - All Streams</b>	-	-	-	-	-	<b>\$2,623,00</b>
<b>Applicable taxes</b>						<b>\$ 131,150</b>
<b>TOTAL</b>	14%	20%	22%	21%	21%	<b>\$9,991,279</b>

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The above table describes the investment to be made in the first five years of activity. Overall, approximately \$5.64M will be directed towards establishing human resource capacity across the four counties and to deliver programs. Fully defined on farm investments that will enable state of the art connectivity and data collection comprise approximately \$0.60M. In addition, *AGora* will invest approximately \$3.06M in technology design, proof of concept and technology development. Investment in community awareness, capacity development, and engagement accounts for an additional \$0.56M. On balance, approximately 20-22% of total investment will occur each year, with relatively less required in Year 1. (Please note that summary detail in Section 5 details investment by infrastructure type, not Value Stream)

#### 4. Methods, Sources and Assumptions to Deliver Confident Cost Estimates

Identification and compilation of required costs to deliver upon (1) the initial proposal; and (2) the strategy defined by *AGora's* Design Team was a core requirement of contracts tendered under the \$250,000 grant to develop this proposal. Each contract included a costing exercise, ranging from delivery of a long-term marketing plan, infrastructure to enable connectivity across the four counties, the various pilots and labs, to staffing and operational support. Details of these contracts are provided in the following section, Reporting on Use of the Finalist Grant.

Specific contracts defined the organizational structure required to implement *AGora*, including human resource, operating and core infrastructure costs and additional policy/design requirements. Costs, implementation design, partnerships, and timelines were developed for the proposed pilots and labs. Overall, level 2 (at a minimum) cost estimates were provided through contract.

- Infrastructure Deployment & Requirements: Taylor Warwick Consulting Ltd. summarized broad costs for full connectivity and delivery.
- Initial Corporate Creation: Integral Strategy Network Inc. defined required elements to take the strategic design from concept to reality over the first delivery phase of the project. The strategic roadmap defined the core elements for *AGora* creation. Each element was costed in consultation with sector experts, both internal and external to the firm.
- Marketing and Community Engagement Plan: Kumpula Design Inc. delivered a full marketing and communications strategy for *AGora* creation and implementation.
- Annual HR, Operating and Deployment Costs: Integral Strategy Network Inc. defined the annual cost of operating *AGora*, based on design considerations identified by the Design Team. Core delivery requirements inside *AGora* were developed based upon outcomes defined in the Strategy Roadmap. Input from organizations of a similar scale, like TECTERRA, were benchmarked.
- *AGora* Technology Platform: Ventus Development Services Inc. confirmed GIS as a core component of the technology platform. Discussion with ESRI Canada and others confirmed that this platform could be implemented, and the cost of its implementation and operation. Costs were cross-verified by Ventus and ISN prior to our including them in the financial plan.
- *AGora* Data Trust Enablement: Integral Strategy Network Inc. discussed Smart Cities Challenge conditions related to privacy and security with technology experts and confirmed costs required to host, manage and support secure tracking and monetization of data in a data trust environment ensuring the appropriate protections are in place.

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- Infrastructure Pilot & Implementation: Ventus Development Services Inc. defined technology requirements, development partners, costs, timing and risks associated with a series of pilot projects AGora will deliver. These initiatives have been included in AGora's roll-out plan.
- Consolidation and Alignment: All cost elements were brought together by Integral Strategy Network Inc. as part of this proposal development process. Key cost elements were vetted for consistency, accuracy and applicability and integrated into the budget and the workplan.

## 5. Contributions from Other Sources

Significant support for AGora has been obtained from external sources. Fifty-five letters endorsing the proposal gives confidence to the proponents of core viability, private sector interest in moving forward in alliance, academic support, and overall interest in cost sharing and participating in future activities.

Support is broadly aligned with the implementation process, with firm external support in place to establish AGora, to be confirmed once the company has been established.

### ***Support to Establish and Maintain the Corporate Structure***

Specific financial and non-financial contributions underpin initial establishment. Significant work is required to create the company, as identified in the GOVERNANCE chapter, to deliver the central outcome of "An effective delivery structure is established." To this end, a stakeholder group will be created, and they ultimately will form the core of the Board of Directors. Each has indicated interest and is willing to provide in kind time and effort in support. These efforts are estimated as follows:

- 2 Board meetings/month for 9 months and then 4 per year thereafter = \$153,000;
- 1 Technology Working Group meeting/month for 9 months and then 6 per year thereafter = \$148,500.

Parkland and participating counties have agreed to provide logistical and administrative support to establish AGora. This includes significant effort by Ms. Barb Scully, who will maintain her role of lead project coordinator, salaried through Parkland County. Administrative and accounting support also will be provided.

- These contributions are estimated at \$130,000.

Integral Strategy Network Inc. (ISN) will deliver corporate establishment and work in partnership with the emergent Board of Directors, the respective counties, other consultants as required, and legal firms to 'stand up' AGora. ISN has been involved since inception, and discussions confirm ongoing interest in maintaining continuity in support. ISN has committed to providing support at a reduced cost (50% discount) that recognizes the future potential of AGora.

- This contribution is estimated at \$441,500.

### ***Technology Providers for AGora Operations and Infrastructure Pilots***

Technology providers have indicated interest and confirmed support. Most significant, four energy utilities will provide time and effort in support of proofs-of-concept through the Regional Connectivity Lab pilot projects. FortisAlberta, EQUUS REA Ltd., ATCO Gas and Zayo Group have all confirmed their interest in participating in pilot initiatives to assess how their existing infrastructure can be used to support broad deployment of rural communications technologies. **This is considered a fundamental**

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**achievement.** The ability to collect and move information cost-effectively in a rural region is essential. *AGora* will determine how this will be achieved through the participation of these companies.

Other technology providers have confirmed interest in helping to establish *AGora* core operations. Both ESRI Canada Inc. and Sightline Innovation Inc. have expressed interest. Sightline Innovation has offered their family of Data Trust platform technologies and has confirmed the participation of their Chief Technology Officer, Dr. Mark Alexiuk, in the Technology Working Group. ESRI Canada has offered their family of GIS technologies. Future discussion will fully define each of their respective roles. Niche vendors exist that offer translation from Latitude/Longitude co-ordinates to Premise ID, the foundation of location for Livestock and Poultry movement.

- Detailed discussion between the project proponents and Sightline Innovation Inc confirmed their support. They will provide \$100,000 in kind contribution towards the project.

#### ***Technology providers/research interests; data access and software development***

Numerous firms have confirmed interest in participating with *AGora* in design and delivery of software tailored to a rural agricultural clientele. A number of Application Labs will be initiated in partnership with private sector interests, academia and government. This will enable the Labs and deliver decision support and other tools necessary to take full advantage of the data to be managed by *AGora*. These Labs will be established later and, no fixed cost, fixed price, or fixed amount of external contribution has been assessed at this time.

- Detailed discussion between these companies and the Parkland Smart Connected Communities Program Manager in the development of this proposal has conservatively estimated the value of these contributions at an additional \$10M.

## **6. Tools Utilized**

*AGora* will receive accounting and administration support from Parkland County, as noted above. Its accounting systems and practices are compliant with Canada's Generally Accepted Accounting Principles. They have been vetted by Alberta Municipal Affairs. Furthermore, we have included in *AGora's* budget professional accounting services and Annual Audited Financial Statements.

We also will ensure we are fully compliant with any Contribution and Reporting agreements required by Infrastructure Canada and the Canada Revenue Agency, should our proposal be successful.

## **7. Reporting on Use of the Finalist Grant**

To develop and deliver a successful proposal the Smart Cities Challenge provided \$250,000 to Parkland and its partners. All funds were used directly in support of this proposal. Five contracts totaling \$250,000 were released through an invitational tender process to secure the best proponent and link products to required outcomes that now drive the proposal itself. Proponents were selected in fall 2018, and contracts were developed to deliver specific project components, based on Smart Cities Challenge design criteria. Contract oversight was provided by Parkland County's Connected Communities Program Manager, Ms. Barb Scully, with contract administration provided by Parkland's financial administration office.

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The following table summarizes the use of funds.

Tender Recipient	Select Deliverables
Integral Strategy Network Inc.- \$50,000 - September 27, 2018 - Sustainability Strategy	Create a long-term strategy that would see the incubator be successful and expanded beyond our region after the initial development to include and be available to all areas of rural Canada. Look at opportunities that will create a financially sustainable future for the Incubator past the award dollars being used. Create a list of stakeholders and what their contribution could be towards the sustainability of the Incubator.
Ventus Development Services Inc. - \$50,000 - September 28, 2018 - Virtual Ag Incubator	Develop a mandate and role for the organization. Review and assess similar global centres for Ag innovation. Define necessary conditions for success, organizational design, partnerships to be engaged, competitive advantages to be sought, staffing, applications and platforms required to be delivered and capital/operating requirements to bring life to the initiative. Define broad timelines for implementation.
Kumpula Design Ltd. - \$50,000 - September 27, 2018 - Marketing and Communications Plan	Deliver a series of community events to continue and enhance the Smart Cities community engagement efforts accomplished to date. Further engage residents and businesses to gather input into the design of the Smart Cities Strategy, and components of the Living Lab. Build widespread understanding of what will be possible as the Parkland Smart Community plan continues to be fully implemented. Deliver an effective, long-term outreach plan to keep residents informed throughout the implementation phase will be needed.
Taylor Warwick Consulting Ltd. - \$50,000 – September 27, 2018 - Infrastructure Assessment and Plan	Deliver a complete review and gap assessment on the installed broadband infrastructure in all participating Counties. Recommended approach to resolve gaps and recommendations regarding core technology choices to deliver equitable internet/cellular access for residents and businesses in the region. Summarize broad costs for implementation and delivery.
Integral Strategy Network Inc. - \$50,000 - 27 September 27, 2018 - Strategy and Final Application	Form and brief Strategy Roadmap design team; build strategy. Conduct “information interviews” to obtain opinions from those influencers who need to be consulted (as required). Ensure regular input and communication with and from the other consultant teams and Parkland County’s Project Manager. Develop, coordinate and consolidate information from other teams. Develop overall Smart Cities Challenge submission.

## 8. Risks and Mitigations

AGora’s proposed corporate structure inherently manages risk – duties, structure, planning processes, policies, regulations and overall accountability processes both assign responsibility and contain risk. The GOVERNANCE chapter fully articulates roles relative to financial management and control will be delivered.

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# IMPLEMENTATION PHASE REQUIREMENTS

This chapter describes plans to meet applicable municipal, provincial, and federal reporting and legislative and policy requirements. Much is formative, and will be actioned following selection.

## 1. Compliance with Reporting, Legislative and Policy Requirements

As AGora is not yet an incorporated entity it is not in violation of any municipal, provincial or federal laws, regulations or policies. As a matter of doing business, AGora will ensure the requirement for compliance with these rests with the Board along with a formal responsibility placed on the AGora CEO and CTO to ensure these are monitored and complied with over time. We have also established a relationship with Service Alberta to advise us and to assist in this regard. Once operational, AGora will identify and establish similar relationships with appropriate municipal and federal entities.

## 2. Duty to Consult with Indigenous Groups

Recognizing that the region's agricultural lands were originally those of the Indigenous people AGora will take extra care to ensure they have the opportunity to provide input and influence the initiative – during the proposal phase as well as moving forward. This will include recognition of rights, respect, co-operation, and partnership with our Indigenous neighbors.

In forming this final proposal, we engaged Enoch Cree First Nation and Paul First Nation as future collaborative partners and have received letters of support from both Nations' Chiefs. We have identified that AGora had several agriculture areas that will support goals of partnering with the Nations in areas such as food security, education, technology and connectivity. Upon awarding of the Smart Cities Challenge prize, we will extend our engagement to all Indigenous communities in our region as well as the urban Indigenous community in neighbouring towns and cities.

We also have created a collaborative relationship with the Metis technology business 3CIS. 3CIS specializes in rural connectivity with a history of working in rural municipalities and First Nations communities, as well as a background in software and technology solutions. We also have consulted with the Technical Services Advisory Group (TSAG), a not-for-profit provider of technical and advisory services for First Nations in Alberta. TSAG is mandated by the Chiefs of Alberta and takes direction from a Chiefs Steering Committee and Board of Directors, which include representatives from Treaty 6, Treaty 7, and Treaty 8.

### **Modern Treaty Obligations**

We are not aware of any modern treaty rights applicable to this region.

Reconciliation and strong and sustainable communities have been discussed in outreach conversations with neighbouring First Nations. AGora is committed to these objectives as a basic principle and will work towards these ends in its delivery, in its full implementation and roll-out of initiatives.

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### 3. Community Employment Benefit (Employment and Procurement Opportunities)

If awarded the \$10 million, AGora will participate in the community employment benefit initiative. As a region we recognize that increasing employment opportunities is a win for all – including helping to employ the underemployed, creating a regional knowledge workforce that can become sustainable and successful, and creating more opportunities for small, medium and social enterprises. By creating a target and an implementation framework we have the means to grow the local economy while participating in the larger global economy.

According to the government of Alberta (<https://investalberta.ca/industry-profiles/agri-foods/>)

*“Alberta offers a high-quality supply of primary products and is the third largest exporter of agri-food products in Canada. In 2017:*

- *Alberta exports of primary and processed agricultural and food products totaled \$11.2 billion.*
- *Alberta produced 33 percent of Canadian wheat, 32 percent of canola, nearly half of the nation’s barley, and 16 percent of Canada’s oats*
- *Alberta led the nation in cattle and calf inventory, accounting for more than 40 percent of Canada’s total*
- *Alberta’s agri-food industries employed 75,100 Albertans: 52,100 in primary agriculture and 23,000 in food and beverage*
- *Alberta’s food and beverage processing industry was the second largest manufacturing employer in the province in 2017, employing 23,000 people, and accounting for \$14.4 billion in manufacturing sales.”*

Given these statistics we know AGora can increase employment opportunities for Indigenous peoples, women, and youth; and procurement opportunities for small-sized, medium-sized and social enterprises. We will establish an outreach program to make these opportunities known to these segments in the four counties.

In the phased approach we will take in developing AGora we know we will see an increase in training and employment opportunities for the listed groups. As AGora begins to grow in both scope and users, we expect it to attract new agri-food opportunities and larger private enterprises.

There is opportunity for under-employed people in the region from the cottage industry processor to larger facilities. Through AGora support we can grow agricultural production for women in agriculture and transfer agricultural opportunities to youth with succession planning. There also will be multiple procurement opportunities for goods and services provided by small, medium, and social enterprises.

AGora Innovation Labs are specifically geared to improving regional opportunities for these target populations. We have benchmark information collected in 2016 and propose not only to target improvements in these areas, as identified in the table below, but also will revisit these benchmarks and re-establish new targets annually.

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SECTOR	CURRENT SITUATION <sup>1</sup>	TARGET	SOLUTION
Indigenous Peoples	Known labour market gaps and underemployed workers in the region	2% increase annually	Through AGora supports and specific outreach programs we will grow agricultural production opportunities for Indigenous peoples in the Region, particularly in agriculture and food security
Women	Known labour market gaps and underemployed workers in the region	5% increase annually	Through AGora supports we will grow agricultural production opportunities for women in agriculture
Youth	Known labour market gaps and underemployed workers in the region	5% increase annually	We will expand agricultural opportunities to regional youth through a focus on improved succession planning
Small, Med and Social Enterprises	Unknown	10 new contracts awarded	We will target requests to these companies to supply goods and services to AGora and its participating partners
1. Sourced from "Parkland County – Labour Market Profile, December 2017". Completed by Applications Management Consulting Ltd. for Alberta Labour and partners.			

#### 4. Climate Lens Assessment (Climate Impacts)

As a result of the projects outlined, we expect a number of positive impacts on climate change adaptation and mitigation as well as Canada's climate change-related goals. In particular, we foresee positive changes that will create an indirect reduction in greenhouse gas (GHG) emissions.

We foresee a positive and direct impact on climate change adaptation goals. In particular, AGora could develop a micro-climate monitoring system that would reduce the impact of flood and drought on local agricultural operations. Although these impacts are not expected to be significant at the national scale, our work to date believes they are significant at the community level.

Parkland County estimated an annual total of 453,860 tonnes of GHG emissions in 2010, with transportation being the highest contributor. A slow but steady increase was anticipated based on a 1.4% average annual population growth rate. This initiative could reduce these emissions.

In recent years, Parkland County has declared agricultural states of disaster due to both drought and high precipitation events. When local wildfire events are included, proposed development of a climate monitoring system will be significant for local agricultural producers. Innovations from AGora will support initiatives led by all counties to reduce the risk of climate change impacts in agriculture – including the Alternative Land Use Services Programs (ALUS) and the Modeste Natural Infrastructure

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Project, both of which attempt to increase ecosystem service delivery regionally through beneficial management practices on agricultural land.

## **5. Other Applicable Laws and Regulations and Policies**

Legislative and regulatory compliance rests with the Board; the CEO, CFO and CTO will be accountable for ensuring these requirements are monitored and complied with over time. We have already established a relationship with Service Alberta to advise and assist us in this regard. Once operational, *AGora* will identify and establish similar relationships with the appropriate municipal and federal entities.

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The logo for AGORA, featuring the word "AGORA" in white, bold, sans-serif capital letters. It is positioned inside a dark, rounded shape that resembles a stylized speech bubble or a modern logo element, with a white diagonal line cutting through it from the top right corner.

**AGORA**

# **Smart Cities Challenge**

## **Final Proposal**

### **FINANCIAL APPENDIX**

**March 5, 2019**

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## Introduction

Investing \$10M over five years requires a comprehensive and detailed financial plan of action. The following appendix outlines key financial details to bring life to *AGora*, define necessary condition for funding support, advance deliverables and achieve results.

## Project Budget

In line with the competition guidelines, a budget has been developed that will fully invest upwards of \$10M to be made available over a five-year delivery period. The following budget detail is provided by phase (establishment/operation), Value Stream, and year. Value Streams are modelled on Lean/Agile methods, and key initiatives grouped thematically (Value Stream).

During these formative years work will be delivered in two broad phases, with Phase 1 being the establishment of the necessary corporate capabilities to house *AGora* and its intended services. Phase 2 is delivery and operations, with focus on defining and delivering the requisite pilots to enable hyper-local data collection and rural connectivity, data collection, community enablement, creation of the full spectrum of web-enabled services and ultimately monetization of the data and systems created.

As the end of the five-year period approaches attention will expand to include positioning *AGora* for deployment and adoption on a Canada-wide scale. Refer to the Project Management chapter for full detailing of the work plans, milestones, outcomes and specific phasing.

Delivery will be enabled using the well understood Agile implementation framework. This proven approach is widely adopted - requirements and solutions evolve through the collaborative effort of self-organizing and cross-functional teams and their customer/end user. In *AGora's* case, Agile implementation teams will emerge from those engaged to date, with the Strategic Plan, Strategic Design team and consultants involved establishing the core members to create the company. Members, products, timelines structure and processes will be developed from this core.

Significant financial detail is provided on Phase 1 - establish *AGora* corporate operations. This is intentional, as this is the first most critical phase. Moreover, once a Board of Directors and an Executive Team are in place, they will be expected to take an active role in defining how the following phases will be achieved, in accordance with this initial plan.

Phase 1 establishment will be achieved through 4 Agile cycles, each delivering progressively more detail and product. This phase is expected to take approximately 6 months, with all necessary and well-understood complexities of Agile-framed implementation defining the actual time for completion. This is reflected in the outcomes identified and the costing/revenue receipt processes to be negotiated with Canada that will underpin delivery.

Phase 2 will maintain the Agile approach and philosophy. Delivery cycles will be defined and delivered to the newly constituted Board and Executive in advance of approvals to proceed.

## Financial Management

Fiscal oversight will be provided first through existing administrative support of Parkland County. Once *AGora* is established, a Chief Financial Officer will be employed and deliver Generally Accepted Accounting Principles (GAAP) processes to establish full financial accountability, including audited financial statements.

## Budget Structure – Value Stream Summary

The following budget summarizes investment by delivery Phase and Value Stream.

Value Stream	Phase 1	Phase 2	Total
Building <i>AGora</i>	2.4%	54.0%	56.4%
Farm Focussed Technologies	0.3%	5.7%	6.0%
SMART Information Management	4.3%	26.3%	30.6%
Connecting People with Technologies	1.1%	4.5%	5.6%
Sub-total	8.1%	90.5%	98.6%
Total hardware (all phases/streams)			26.2%
Tax on hardware			1.3%
Total			100%

The Value Streams, itemized above, consolidate functions into delivery requirements and deliver cross functional alignment. They are detailed in the following section, with summary described as:

1. Activities associated with establishing, staffing and running the company are grouped into “Building *AGora*” Value Stream.
2. Activities related to on-farm capabilities are housed in the “Farm Focused Technology” Value Stream,
3. The “SMART Information Management & Technology” Value Stream identifies all cross functional requirements to establish and maintain the systems that will underpin *AGora*, data trust and data oversight, as well as architecture design requirements.
4. The final Value Stream – “Connecting People, Technologies and Farms” lays out specifics on how community engagement and understanding will be achieved.

## Building *AGora*

This value stream delivers corporate design, organization, governance and operations. Initial establishment work focuses on creating the company, defining bylaw, operations, policies, etc., that set *AGora* on a positive course. Operational costing reflects what would be expected in a new firm – Human Resource, governance and operational requirements to deliver.



## Farm Focused Technology Driven Continuous Improvement

This value stream will establish the requisite capabilities for on-farm data collection, and will support software design and delivery through the first five years of *AGora* operations. Through discussion with early adopter farmers the specific hyper local challenges will be identified, data collection systems modelled and put in place, and a process to derive value from the data collected will be defined.

Fundamental to the success of this value stream is the participation of the early adopter farmers, proper framing of the problems to be addressed and the development of decision support tools that will flow back to the farmers to improve on farm decision making.

## SMART Information Management & Technology

This is the core of *AGora*. This value stream consolidates the technology requirements to both establish the *AGora* (GIS systems, etc.), pilots that will determine if other infrastructure (hydro/gas) can be effective delivery agents for connectivity, data cleanup and overall proofs of concept tied to the ongoing software that will deliver value to the data providers and beyond.

## Connecting People, Technology & Farms

Networking, marketing and engagement underpin this value stream. Staff delivery of a full community engagement, community outreach and leadership development process is framed in this section. Branding, web management and social media are costed into this stream. A full marketing plan has been developed that will underpin initial activities of this stream.

## Budget Structure – Annual Investment Summary

Value Stream - Theme	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Building <i>AGora</i>	\$ 794,050	\$1,188,100	\$1,254,603	\$ 1,216,643	\$1,189,234	\$5,642,629
Farm Focused Tech Improvement	\$ 56,000	\$ 100,000	\$ 127,500	\$ 155,000	\$ 160,000	\$ 598,500
SMART Management and Tech	\$ 420,000	\$ 630,000	\$ 685,000	\$ 675,000	\$ 650,000	\$3,060,000
Connecting People Technology and Farms	\$ 159,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 559,000
SUB-TOTAL	\$1,429,050	\$2,018,100	\$2,167,103	\$2,146,643	\$2,099,234	\$9,860,129
Hardware – All Streams	-	-	-	-	-	\$2,623,000
Applicable taxes						\$ 131,150
TOTAL	14%	20%	22%	21%	21%	\$9,991,279

The above table describes the investment to be made in the first five years of activity. Overall, approximately \$5.64M will be directed towards establishing human resource capacity across the four counties and to deliver programs. Fully defined on farm investments that will enable state of the art connectivity and data collection comprise approximately \$0.60M. In addition, AGora will invest approximately \$3.06M in technology design, proof of concept and technology development. Investment in community awareness, capacity development, and engagement accounts for an additional \$0.56M. On balance, approximately 20-22% of total investment will occur each year, with relatively less required in Year 1.

Value Stream - Theme	Line #	Budget Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
<b>Building AGora</b>								
Organization	A01	Standing up Operations - Phase 1	\$ 135,000					\$ 135,000
		Staff / Overhead Costs						\$ -
		SALARY - loading factor						\$ -
	A02	CEO	\$ 91,500	\$ 183,000	\$ 187,575	\$ 192,264	\$ 197,071	\$ 851,410
	A03	CFO (33%)	\$ 30,500	\$ 61,000	\$ 62,525	\$ 64,088	\$ 65,690	\$ 283,803
	A04	CTO	\$ 82,350	\$ 164,700	\$ 168,818	\$ 173,038	\$ 177,364	\$ 766,269
	A05	Solution Architect / Developer	\$ 61,000	\$ 122,000	\$ 125,050	\$ 128,176	\$ 131,381	\$ 567,607
	A06	AG Technology Specialist	\$ 36,600	\$ 73,200	\$ 75,030	\$ 76,906	\$ 78,828	\$ 340,564
	A07	AG Technology Specialist	\$ 36,600	\$ 73,200	\$ 75,030	\$ 76,906	\$ 78,828	\$ 340,564
	A08	Marketing / Communications / Engagement	\$ 36,600	\$ 73,200	\$ 75,030	\$ 76,906	\$ 78,828	\$ 340,564
	A09	Office Manager	\$ 36,600	\$ 73,200	\$ 75,030	\$ 76,906	\$ 78,828	\$ 340,564
	A010	Grant Writer (33% Potential contract)	\$ 18,300	\$ 36,600	\$ 37,515	\$ 38,453	\$ 39,414	\$ 170,282
		4 year avg Inflation						\$ -
								\$ -
	A011	Accounting Services	\$ 10,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 90,000
	A012	Legal Services	\$ 10,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 90,000
<b>Governance</b>								
	A013	Standing up Governance - Phase 1	\$ 50,000					\$ 50,000
		Program Oversight / Priority setting and Foresight / Future						
	A014	Proofing		\$ 25,000	\$ 50,000	\$ 50,000	\$ 25,000	\$ 150,000
	A015	Board Fees	\$ 15,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 135,000
	A016	Working group recruitment and Support	\$ 12,000	\$ 24,000	\$ 24,000	\$ 24,000	\$ 24,000	\$ 108,000
<b>Operations</b>								
	A019	Standing up Operations - Phase 1	\$ 60,000					\$ 60,000
	A020	Change Program funding		\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 100,000
	A021	Office Space (\$20 / sq. ft)	\$ 12,000	\$ 24,000	\$ 24,000	\$ 24,000	\$ 24,000	\$ 108,000
	A022	Office Operations	\$ 5,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 45,000
	A023	Travel	\$ 20,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 180,000
	A024	Hardware	\$ 25,000	\$ 25,000	\$ 20,000	\$ 10,000	\$ 10,000	\$ 90,000
	A025	Software (to support operations)	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 50,000
	A026	Building a Rural culture of Innovation Challenge		\$ 75,000	\$ 25,000	\$ 25,000		\$ 125,000
	A027	AGora Long term business model Challenge			\$ 75,000	\$ 25,000	\$ 25,000	\$ 125,000
<b>Farm Focused Technology Driven Continuous Improvement</b>								
								\$ 5,642,629
Support	FFT1	Standing up Farm focused Value Stream - Phase 1	\$ 42,500					\$ 42,500
	FFT2	Front Line and Help desk support	\$ 5,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 45,000
	FFT3	Continuous Maintenance coordination	\$ 2,500	\$ 5,000	\$ 7,500	\$ 10,000	\$ 15,000	\$ 40,000
<b>Hyper-local Problems</b>								
	FFT5	Articulate, measure and Monitor HLP	\$ 5,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 45,000
	FFT6	Improve and Report progress	\$ 2,500	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 22,500
<b>LABs</b>								
	FFT8	Maintain HLP Business cases context and Variables for solutions	\$ 5,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 45,000
	FFT9	Conduct Tech Transfer with Partners, Farmers and HLPs	\$ 5,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 45,000
	FFT10	AGora LAB Initiatives		\$ 50,000	\$ 75,000	\$ 100,000	\$ 100,000	\$ 325,000

[illegible]

## Readiness Phase – Budget

The first six months of the workplan is outlined in detail. The intention is in these six months to execute all the tasks necessary to establish the *AGora* Organization and get the *AGora* change program up and running. This six-month program will lay the foundation of the Agile change program, establish the cadence, priorities and focus for each of the value streams. The expectation is that this work will be executed through a services contract with a consultant team familiar with the *AGora* program and well-versed in the nature, impacts and outcomes the program is expected to achieve. Below is the budget for the Readiness phase by Value Stream.

Phase 1 - Building AGora			Iteration 1						Iteration 2						Iteration 3						Iteration 4						
			W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23	W24	
Organization	1.1	AGora Design	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500													
	1.2	Validate Business Model																									
	1.3	Staff Hiring																\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500				
	1.31	Staff Re-location																			\$20,000		\$20,000		\$20,000		
	1.4	Recruit and Stand up Working groups																			\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	
	1.5	Interim Design Group costs													\$3,000												\$135,000
Governance	1.6	Stand-up AGora Interim design group																									
	1.7	Create and approve Bylaws													\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500							
	1.8	Legal guidance																								\$5,000	
	1.9	Performance Metrics																			\$2,500		\$2,500		\$2,500		
	2	Outcome Priorities																			\$2,500		\$2,500		\$2,500		\$50,000
Operations	1.11	Service Contract																									
	1.12	Write Job Descriptions																									
	1.13	Recruit Staff																									
	1.14	Operationalize and Train Change Program																			\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	
	1.15	Write Contracts and Partnerships																			\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	
	1.16	Conduct a Planning workshop																							\$10,000		
																										\$60,000	
																										\$245,000	
Phase 1 - Farm Focused Technology Driven Continuous Improvement			Iteration 1						Iteration 2						Iteration 3						Iteration 4						
			W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23	W24	
Support	Solutions, Scoping, Funding and Approving																										
	2.1	POCs													\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000						\$6,000	
Hyper-local Problems	2.2	Understand and Scope HLPs and establish SORs and a Proof of Concept													\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500							
	2.3	(POC)																			\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	
LABs	Evaluate AG LABS and characterize Vendor																										
	2.4	Solutions and offerings													\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000							
	2.5	Showcase Partner / Vendor Solutions																									
																										\$42,500	
																										\$42,500	

Phase 1 - Information Management and Technology		Iteration 1						Iteration 2						Iteration 3						Iteration 4						
		W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23	W24	
Enabling Infrastructure	Articulate Statement of Requirements (SOR) for the Connectivity Lab				\$4,000	\$4,000																				
	Formalize Connectivity Lab Partnership					\$2,000		\$2,000																		
	RUN ISP connectivity Pilot													\$150,000						\$150,000						\$312,000
Hyper-local Data	Define Data requirements to support HLPs							\$1,500	\$1,500	\$1,500	\$1,500															
	DEFINE Technology Requirements to support AG LABs								\$1,000	\$1,000	\$1,000	\$1,000														\$10,000
Technical Architecture	Develop SMART Architecture Design			\$3,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000																	
	Evaluate IM/IT Architecture Options								\$5,000	\$5,000	\$5,000	\$5,000														
	Partner with Providers																									
	Establish the SMART Architecture Ver 0.5													\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$108,000
																										\$430,000
Phase 1 - Connecting People Technology and Farms		Iteration 1						Iteration 2						Iteration 3						Iteration 4						
		W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23	W24	
Marketing	Brand work		\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000											\$2,000	\$2,000	\$2,000	\$2,000			
	Communication collateral					\$1,500	\$1,500	\$1,500	\$1,500																	
	Website							\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000							
Networking	Vendor Market Assessment			\$5,000	\$5,000	\$5,000		\$2,500																		
Engagement	Program Outreach									\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000							
	Recruit Early Adopter Farmers							\$5,000	\$5,000																	
	Community Roadshow																									\$99,500
Phase 1 - Readiness		Iteration 1						Iteration 2						Iteration 3						Iteration 4						
	Weekly Cashflow	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23	W24	
	Iteration Totals	\$2,500	\$4,500	\$7,500	\$18,500	\$22,500	\$28,500	\$26,500	\$22,000	\$19,000	\$19,000	\$17,500	\$25,500	\$171,000	\$21,000	\$21,000	\$23,500	\$23,500	\$31,000	\$186,000	\$16,000	\$43,500	\$11,000	\$39,000	\$17,000	\$817,000
							\$84,000						\$129,500					\$291,000						\$312,500		



## Payments Linked to Performance Measures

### Building AGora

This Value Stream is the core of the program. It will deliver the organization that will anchor, lead and oversee all *AGora* work. When hired, this value stream will be owned by the CEO and will directly be supported by the CFO and the Office manager. The CEO will work closely with the Interim Design Group to design the organization, validate the business model, hire staff and incorporate the not-for-profit organization. After 6 months it is expected that the Interim Design Group will evolve into several working groups, one working group for each value stream.

This Value Stream is focused on three themes, Organization, Governance and Operations. It will build an organization and program that can take advantage of the virtual nature of the internet and its connected technologies to support thriving rural communities. In order to rise to such a challenge, it will be very important to create the organization with strong governance that is focused on leveraging the capabilities, experience and expertise of others in a manner that is collaborative, fair and beneficial for all.

		Year 1		Year 2
Building AGora	Organization	Design and Incorporate the Organization	Recruit and Hire Staff	Develop Pay to Play Model
	Governance	Establish AGora Interim Design Group	Establish the Board of Directors	Stand Up Teams and Working groups
	Operations	Contract Services to Initiate and Run the Readiness Program	Operationalize Change Program	Build a Rural Continuous Impro

AGora 5 Year Plan		
Year 3	Year 4	Year 5
Create "Real Time" AGora data / Continuous Improvement Environment	Expand revenue model and funding for long term growth	Expand revenue model and funding for long term growth
Oversee AGora Program, progress, priorities and performance		Establish Year 6 Program and Sustainable Governance Structures
Government and Culture of Innovation	Expand the Rural Continuous Improvement and Culture of Innovation	

This value stream will deliver:

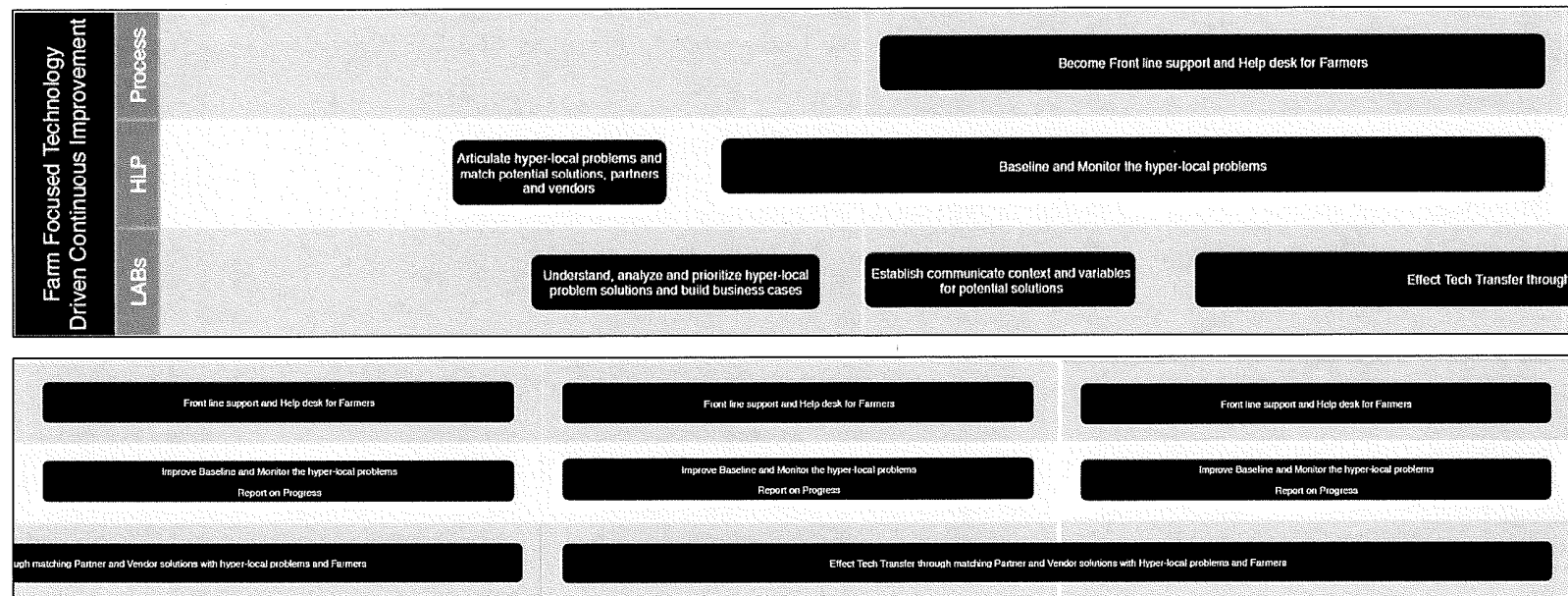
- An incorporated not-for-profit organization that is positioned in Rural Alberta that represents, with confidence and through connection, the needs and requirements of four counties' agricultural sector to improve through the adoption of technology.
- A staff that underpins the organization and delivers on the four value streams in concert with the community and partners.
- A change program that engages, connects and opens people's hearts and minds to the technological opportunities that affect rural agricultural communities.
- A long-term sustainable business model to support *AGora* after year 5.
- A Board of Directors that work collaboratively together bringing resources, talents, skills and experience to economically solve rural agriculture problems.
- Program, progress, performance and outcome oversight.
- Strategies and plans to scale the concepts of *AGora* into regions of Rural Canada.



		Year 1				Year 2				Year 3				Year 4				Year 5			
Building AGora		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Milestone	Funding for Readiness Phase																				
Payment Schedule	Establish AGora Interim Design Group																				
	Staff Hired																				
	AGora Incorporated																				
	Pay to Play Model established																				
	Establish the Board of Directors																				
	Operationalize Change Program																				
	Launch a Rural Continuous Improvement and Culture of Innovation challenge in the region																				
	Oversee the AGora Program, progress, priorities and performance																				
	Launch the AGora Long term business model Challenge																				
	Establish Year 6 Program and Sustainable Governance Structures																				

## Farm Focused Technology Driven Continuous Improvement

This value stream is the critical connection of *AGora* to the farms, farmers and communities that are volunteering as early adopters to be part of *AGora*'s program. The Agricultural Technical specialists will be in the center of the conversation around the hyper-local nature of the challenges faced day to day on farms, their specific contexts with respect to weather, soil, crop, layout, equipment etc. and deep insight into the technical solutions that Agricultural Vendors and Partners offer. They will lever the technical environment and infrastructure to roll out solutions to make improvements on farms. This group will deliver business cases and initiatives that represent solutions and efficiencies to farmers. *AGora* will act as first point of contact in the troubleshooting and technical assistance required to support these solutions once deployed on the farm. They will help understand both the capital and operational costs of the solution and ensure that the data points necessary to support these solutions are being captured hand in hand with the work.



Specifically, the Farm Focused Technology driven CIP Value stream will deliver:

- Completed business cases for hyper-local Agricultural problems. They will establish baselines and monitor these problems and effect a match making between available solutions in the partner and vendor network that *AGora* builds.
- They will become the front-line support for farmers, so that Lab solutions, sensors or infrastructure can be troubleshot from their desk and in contact with the appropriate provider.
- Once SMART solutions are found in any of the LABs and they are prioritized they will refine the business case, seek approval and funding and be present to support implementations.

The following Outcomes and Performance measures are aligned with this Value Stream

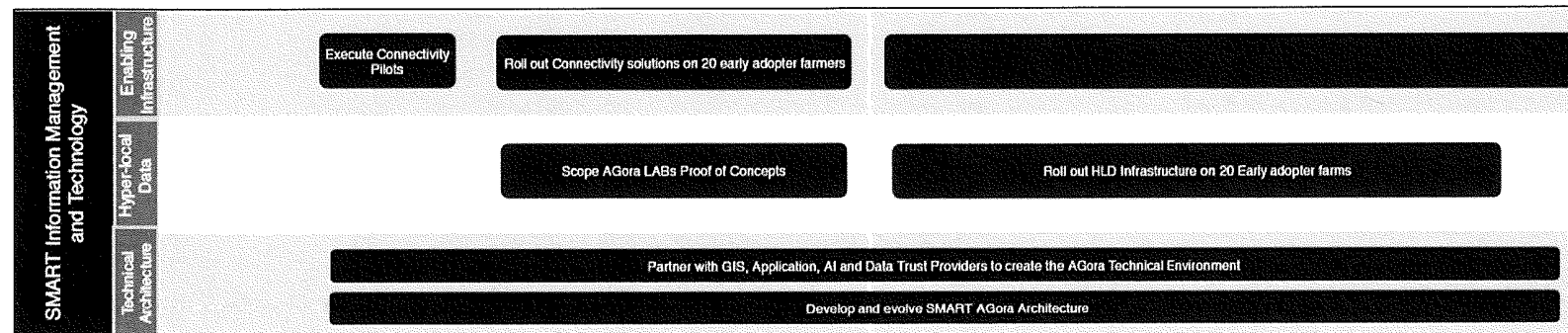
		Year 1				Year 2				Year 3				Year 4				Year 5			
Farm Focused Technology Driven Continuous Improvement		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Milestone	Funding for Readiness Phase																				
Payment Schedule	Complete HLP business cases																				
	Baseline and Monitor the hyper-local Agricultural problems																				
	Stand up LAB and Infrastructure Help desk																				
	Affect Tech Transfer Through matching Partner and Vendor solutions with HLPs and Farmers																				
	Approve and Fund Lab Initiative #1																				
	Approve and Fund Lab Initiative #2																				
	Approve and Fund Lab Initiative #3																				
	Approve and Fund Lab Initiative #4																				
	Approve and Fund Lab Initiative #5																				

## SMART Information Management and Technology Value Stream.

This Value Stream is the technological backbone to *AGora* with three main themes: Connectivity infrastructure, hyper-local agricultural data and SMART architecture. The Value Stream will be owned by *AGora's* CTO and a Solutions / Enterprise Architect. These three elements of the backbone enable the business user (the farmer) to experiment and experience solutions first hand in order to adapt them and build a cycle of improved operations. The data layer allows *AGora* and its partners to develop an objective view around how effective a solution is, establishing the business case and context for this agricultural improvement. It also allows for the flow of data to a data trust that can then bring value over the long term for the data owners.

The Architecture will be the glue that holds these interactions between the sensors on farms, cloud services, the GIS enabled platform, analytics, the data trust and any third party solution. What this environment needs to look like to support this endeavour needs some focused formalization during the readiness phase of the *AGora* program. This program will be guided and enabled through the Technology Working group, whose sub-focus will include security, privacy, data integrity, Open GIS, Architecture, Infrastructure, Analytics and Risk.

This Architectural design needs to both meet the immediate needs of *AGora* but also establishes the foundation of scalability that can be mobilized to other “Rural IOT Challenges” in essence becoming an example of solutions for rural economies like forestry, mining and small-scale resource extraction.



Year 3	Year 4	Year 5
Leverage HLD infrastructure, fund and connect 40 more farmers	Leverage HLD infrastructure, fund and connect 80 more farmers	Leverage HLD infrastructure, fund and connect 160 more farmers
Develop, manage and evolve the Technical Environment to meet AGora needs and requirements	Create a Testing and Development Environment for Partners and Vendors	

Specifically, the SMART Information Management and Technology Value Stream will deliver:

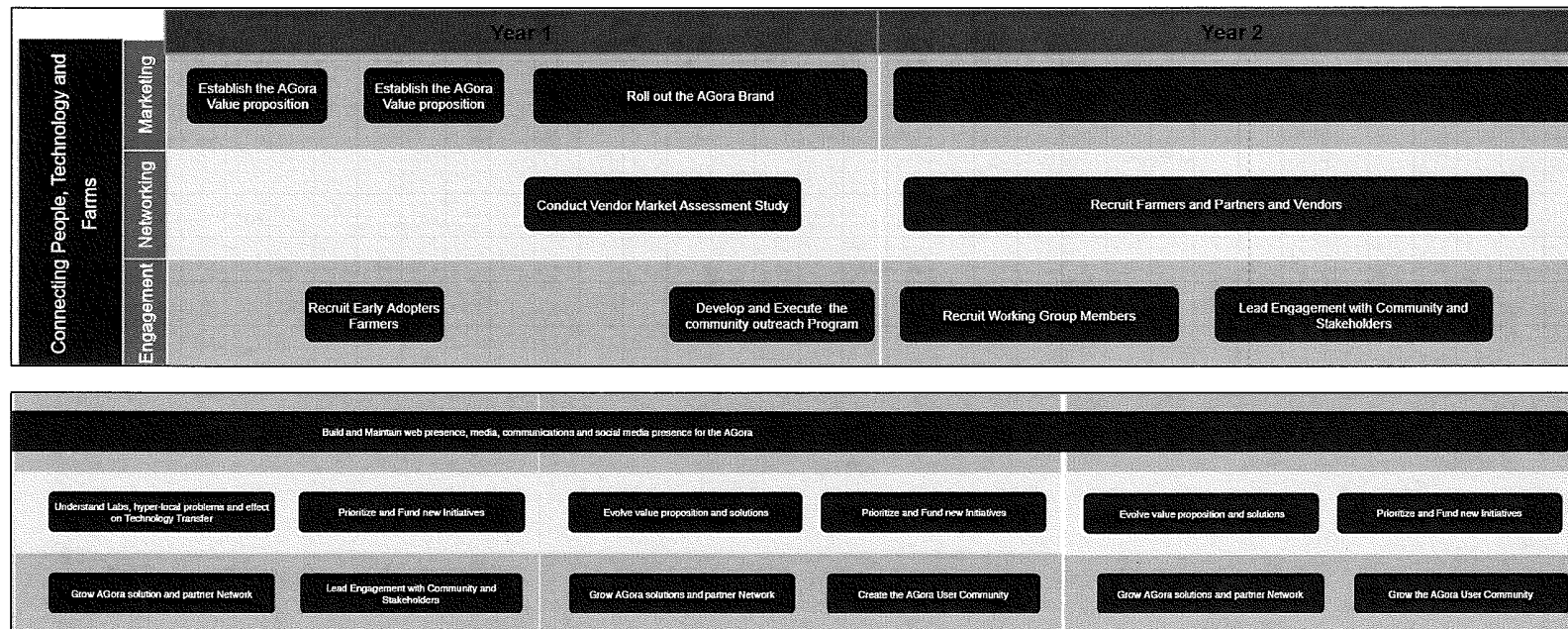
- AGora's Information and Data architecture.
- It will, through Pilots and Proof of Concepts (PoCs), connect farms to the internet, roll out a farm area network and establish an array of sensors that would become the data baseline for the hyper-local context we are creating.
- AGora will develop an environment in a hosted world that connects and assembles these features, data and information together. The intention will to leverage advances in Open GIS, cloud computing and an "As a Service model" to bring together a platform that delivers value to farmers from a continuous improvement perspective and one that brings value to Partners and Vendors from a prototyping, testing and R&D perspective.
- The innovation Labs will act as proof of concepts (Agricultural IOT) for these market-based solutions providing the hyper-local data as proof to hypothesis that speak to what kinds of savings were experienced when this solution was rolled out.

		Year 1				Year 2				Year 3				Year 4				Year 5			
SMART Information Management and Technology		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Milestone	Connectivity Pilots Funded																				
Payment Schedule	Connectivity Pilots Completed																				
	Farm Area network POCs Funded																				
	Farm Area POCs Completed																				
	Agricultural IOT POCs Funded																				
	Agricultural Completed																				
	Technical Environment Implemented																				
	Data Trust Connected																				
	Phase 1 - Hyper-local Data Capability is designed																				
	Hyper-local Data Capability Operationalized																				
	Phase 1 - SMART Architecture designed																				
	SMART Architecture implemented and evolving																				



## Connecting People Technology and Farms

This Value Stream is the key connection between *AGora* and the community at large. It is focused on the established *AGora* brand and key value statements. It will be led by a Marketing communication expert and will connect and recruit external stakeholders to *AGora* programs. This could be a small rural agricultural solution company in Europe or the neighbour of an early adopter farmer who wants to understand what is going on and how they can become involved. With the help of the Office Manager they will lead a working group focused on Connecting People Technology and Farms. This will involve education, meaningful engagement, combined with real opportunities to help build and multiply the value creation that is core to the center of the program.



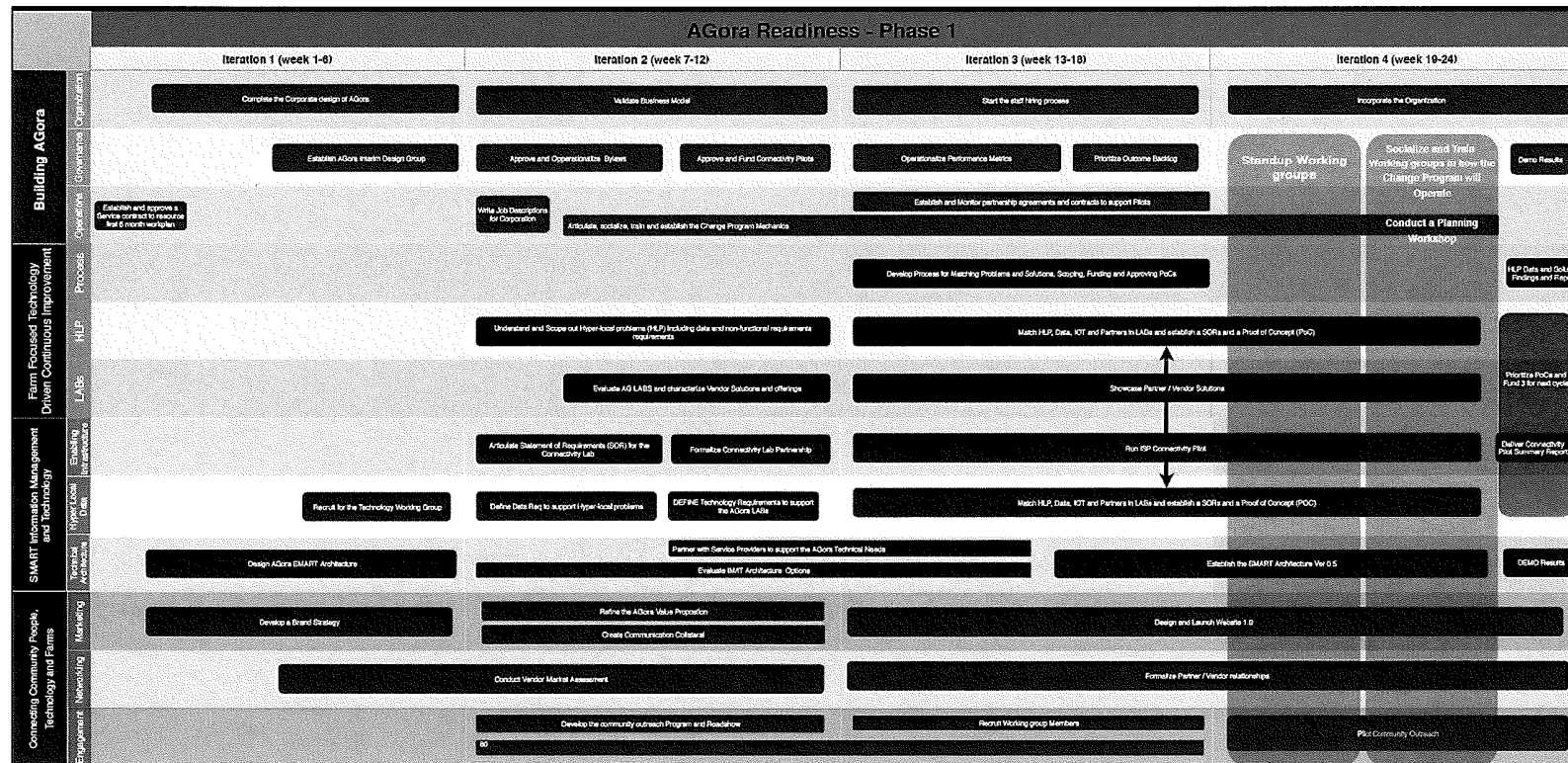
Specifically, the Connecting People Technology and Farms Value stream will deliver;

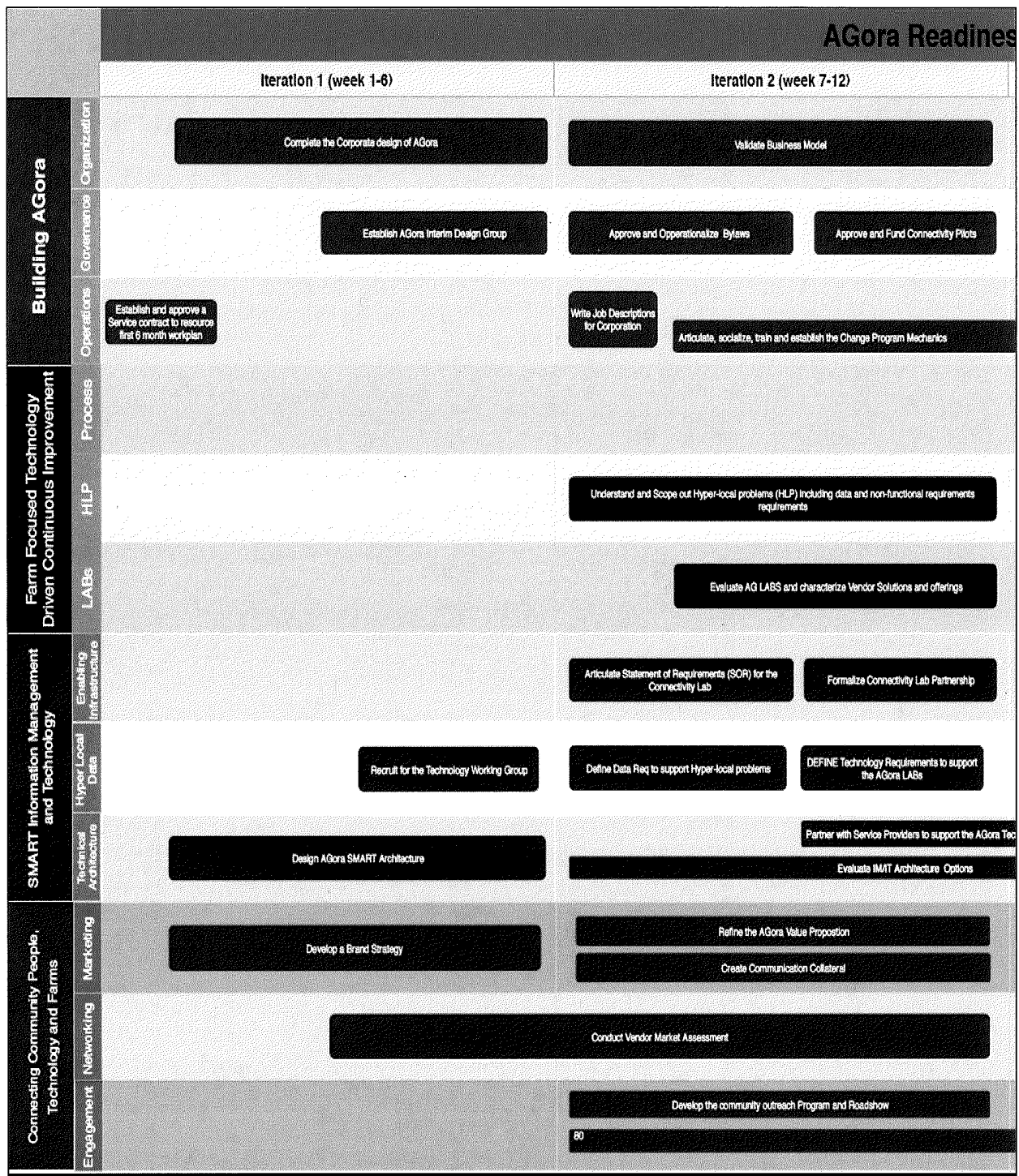
- AGora brand and value proposition and associated communication collateral.
- A digital presence, that includes a public facing website with a partner and community oriented portal. They will build an associated social media presence in alignment with the Brand and program.
- They will build a healthy Connecting Peoples Working Group
- They will regularly engage with the regional community and connect AGora programs to other important community organizations or events.

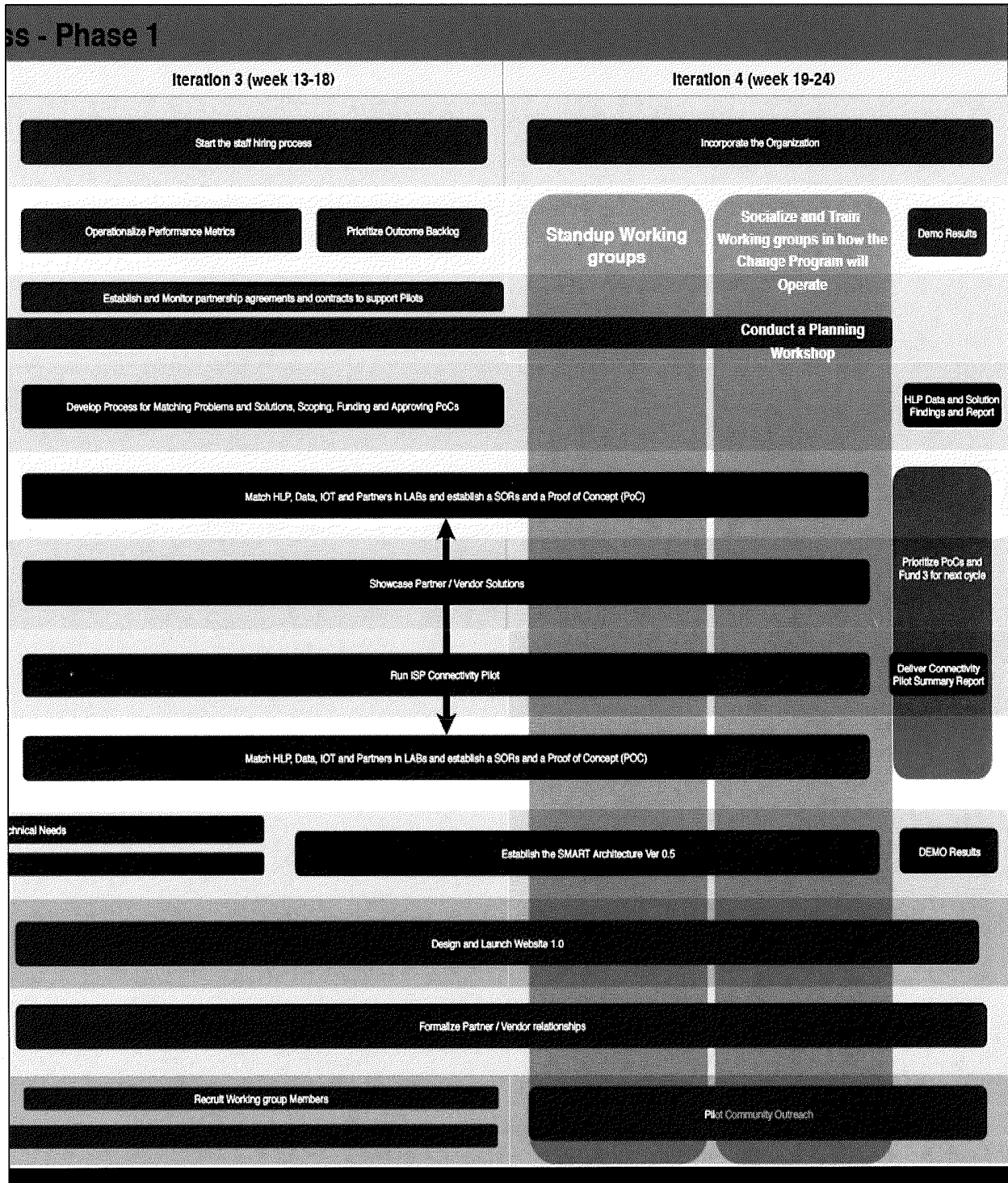
		Year 1				Year 2				Year 3				Year 4				Year 5			
Connecting People Technology and Farms		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Milestone	Phase 1 - Launch the AGora																				
Payment Schedule	Brand Established																				
	Web Site Launched																				
	Partner Portal Launched																				
	Community Portal Launched																				
	Community is recruited to the Working groups and Early Adopters																				
	A healthy Partner Network is established																				
	Community Engagement Events are planned and executed																				
	AGora establishes a User Community																				



# Phase 1 – The Readiness Phase







## Financial Resources

AGora will employ a budgeting process that combines annual budget development for ongoing AGora operations (staff, overhead, support, pension, etc.) with a 'Lean' budget development approach that supports delivery of project value streams, pilots and specific development initiatives. This alignment will deliver necessary links to outcomes-based project implementation and necessary funding through the Smart Cities Challenge initiative. Full details of financial processes are outlined in the Financial appendix.

The Lean budget approach provides efficient and effective financial control over project investments and supports the much higher throughput of development work. As core elements of AGora are established, a traditional operating model will be adopted over the five-year timeline.

The three main considerations in implementing Lean Budgets are as follows:

- **Funding Value Streams, Not Projects** - The primary role of a change program is to fund a set of Value Streams that deliver solutions, services and products. The first step is to give each Value Stream a budget and a set of guardrails to support the budget by defining spending policies, guidelines, and practices. Like any good governance, these guardrails enable autonomy within the Value Stream.
- **Guiding Investments by Horizon** - This program will manage different horizons of investment, based on "The Alchemy of Growth" and Scaled Agile Three Horizons of growth model. Horizon one represents those core businesses most readily identified with the company name and those that provide the greatest profits and cash flow. Here the focus is on improving performance to maximize the remaining value. Horizon two encompasses emerging opportunities, including rising entrepreneurial ventures likely to generate substantial profits in the future but that could require considerable investment. Horizon three contains ideas for profitable growth down the road. Balancing activities between Three Horizons of Growth is key to maintaining profitability and managing risk and uncertainty.
- **Participatory Budgeting** – This is a technique for solving the "too many good ideas and insufficient funds to execute them all" problem. Collaboration between financial experts, Outcome Owners and other relevant stakeholders will ensure that investments in Value Streams are appropriately sized and will help to manage the approval process for work in the program Kanban. Since participants can't fund all the items, they must work together to identify the best investments. Even more importantly, participants from different Value Streams must collaboratively pool their budgets to support initiatives no single Value Stream would fund by itself.

Value Streams will be funded one Program Increment at a time. Each Value Stream will include packages of work represented by Action-Outcome Epics. These work packages will have well-defined objectives and incremental deliverables, clearly linked to operational and capital costs.

Each Value Stream, led by AGora staff in conjunction with their Working Group, will oversee and account for the flow of funds, delivery of value, and milestones achieved. Project management software will provide access to this information for each the Teams and the Program as a whole.

## Procurement Strategy

AGora's procurement strategy is modelled on Agile best practices and will be supported by full oversight provided through AGora's purchasing policies and the Chief Financial Officer.

Contracts for agile projects will be based on an evaluation of working functionality at the end of each iteration or program increment, not on fixed deliverables and documentation that may or may not contribute to delivering quality solutions. Agile teams will focus on maintaining a positive, cooperative relationship between buyers and sellers from the start of the procurement process.

The intention is to begin with a traditional procurement strategy and evolve into a Lean-Agile procurement mechanism that supports innovation with vendors and partners.

Business cases and proofs-of-concept will inform the "make or buy" decision. It is expected that a hybrid model will be required. In the early days, when relationships are being established with partners, vendors and suppliers, fixed-price contracts, cost-plus service contracts, and time-and-materials contracts will be necessary to create the initial AGora capabilities.

The traditional model will find AGora in the position of preparing, evaluating and awarding contracts with our partners and preferred Vendors.

Initially, procurement will be done using procedures in place in Parkland County. The burden will be eliminated once AGora is incorporated and staff are hired.

It is envisaged that by Year Three, as Lab initiatives are being rolled out, a Lean-Agile procurement process with established partners will be the ideal way to minimize costs and maximize benefits. AGora will retain an expert in this approach to adopt the LAP process (<https://www.lean-agile-procurement.com/lap-approach-step-by-step>).

## Investment Scope, Scheduling, Sequencing, and Dependencies

Project spending and investment decisions will be based upon a full delivery of Agile scoping, scheduling, sequencing and identification of dependencies. This will ensure that risks to project delivery are identified in advance, mitigations developed, and investments approved.

AGora's Agile delivery and financial oversight methodology will rely upon constructive planning workshops to define work flow, investment requirements and scheduling and team synchronization. At the core will be effective use of funds to deliver the identified product in a timely, efficient and cost-effective way.



## Planning Workshops

In each planning workshop, team members and stakeholders will engage in face-to-face communication. This will strengthen social relationships underpinning the change program and will align the proposed work and business goals with the overall program vision, outcomes, and objectives. Priorities will be matched with capacity in cross-team discussions with advisory groups and outcome owners. Project scope, scheduling, sequencing and dependencies will be managed and the required financial sign-off will be obtained.

## Dependencies

Teams will define project objectives based on paired actions and outcomes in the Strategy Roadmap. This will establish a shared language for communicating with business and solution stakeholders. A vision of near-term objectives will be created, which teams can rally around. This will highlight each team's contribution to delivering business value and will identify dependencies that require coordination.

## Scheduling Synchronized Workplan Events

### Sprints

A Sprint is an iterative process with a series of repeatable events that support development of the team and the work being delivered. Its duration can vary from 1-8 weeks. This is most often fixed for the duration of a given project or program. A visioning and planning session occurs before the start of every iteration. A close-off and learning event occurs at the end.

During the work, "standups" are regularly scheduled to update everyone on the ongoing work and progress. Team roles help to establish key responsibilities within the team. Repetition of team events creates a cycle of knowing and learning that becomes very effective in uncertain, complex system work.

Agile teams execute a full plan-do-check-adjust (PDCA) cycle within each iteration. This consists of different types of ceremonies that take place regularly through the iteration. Planning and Adjusting ceremonies take place once at the beginning and end of each iteration and the doing and checking ceremonies will be established by the Agile team itself.

## Program Increments

A Program Increment is a timebox that contains multiple sprints or iterations, synchronized with other teams' work that leads to aligned delivery of increments of value. The intention is to focus and limit work in progress, demonstrate value created or delivered and observe and learn across the multiple functions of the program delivery. During this increment cross functional team members will meet and discuss common obstacles, issues of alignment and priorities, attempting to both share and learn from each team's experience. In preparation for work in the next increment, work packages focused on next steps are created and approved ready for coordination and the next planning event.

## Program Planning

Program planning will be done in a two-day synchronized large group event that brings all teams together in a face-to-face workshop that serves as the heartbeat of the Strategy Roadmap change program. If teams are distributed geographically, the event will occur as simultaneously as possible. The standard agenda will include presentations on the business context and vision of the future. Teams will then break out to plan their next iterations within the Program increment. The Program Team will walk around and seek clarity, identify dependencies or cross-functional issues the Teams will need to resolve. The focus is on building relationships and aligning language, expectations and outcomes within the next Program increment. The Program Increment will be visually displayed, constructed and fine-tuned during the event. Program risks will be identified, and mitigation plans established. A Program learning event will conclude the two-day workshop.

The logo consists of a black, rounded, teardrop-like shape pointing towards the top right. Inside this shape, the word "AGORA" is written in a bold, white, sans-serif font.

**AGORA**

# **Smart Cities Challenge**

## **Letters of Support**

March 5, 2019

Brazeau County // Lac Ste. Anne County // Parkland County // Yellowhead County



**Page(s) 115 to 118  
are withheld  
pursuant to paragraph  
13(1)(d)  
of the *Access to Information Act***

**\*\*\*\***

**La/les page(s) 115 à 118  
Font l'objet d'une exception totale  
conformément aux dispositions de paragraphe  
13(1)(d)  
de la *loi sur l'accès à l'information***

January 29, 2019

Ms. Barb Scully  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB T7Z 1R1

Dear Ms. Scully:

As you know, [REDACTED] to ensure all Albertans have quality, affordable access to the internet. I am pleased to write in support of Parkland, Brazeau, Lac Ste Anne and Yellowhead Counties' Smart Cities Challenge proposal. It offers an exciting glimpse of what a connected Alberta will be able to achieve; and of how smart technologies can serve to improve the lives and wellbeing of Albertans.

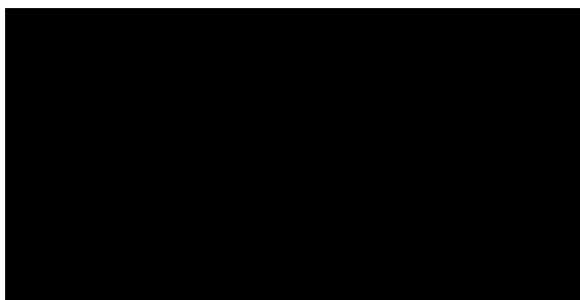
In expressing support for Parkland, Brazeau, Lac Ste Anne and Yellowhead Counties' proposal, I would like to focus on two distinct areas.

First, one of the proposal's three goals is to bring leading edge connectivity to the four counties. Achieving this would be a critical step towards realizing the proposal's wider ambitions for agriculture, rural sustainability and prosperity, and safety and security. [REDACTED] welcomes this objective and the supporting actions detailed in the proposal. The region is representative of the approximately 86 per cent of Albertan communities that currently lack access to broadband speeds that meet the Canadian Radio-television and Telecommunications Commission's (CRTC) target speeds of 50 megabits (Mbps) download and 10 Mbps upload. A specialist consultancy's analysis of the current state of advertised broadband speeds across Alberta indicates that the entire population (61,762) of the region lacks access to speeds that meet the CRTC target. If selected as a Challenge winner, this initiative could – as part of achieving its wider goals - contribute to a significant reduction in Alberta's digital divide and provide invaluable learning for other rural communities across the province.

Second, partnerships between municipalities have a vital role to play in ensuring Alberta meets its connectivity needs in a coordinated and timely manner. The successful collaboration between Parkland, Brazeau, Lac Ste Anne and Yellowhead Counties offers an inspiring example to other municipalities of what can be achieved in this respect.

Yours truly,

[REDACTED]



ATIA - 13(1)(d)

ATIA - 19(1)

February 13, 2019

Dear Ms. Scully:

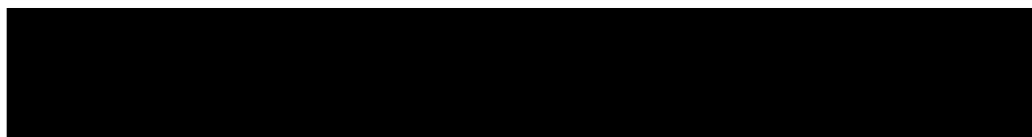
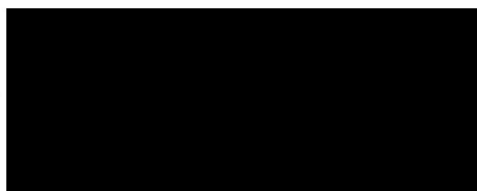
I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed application to Canada's Smart Cities Challenge (SCC). When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an "Ag Innovation Lab" that will improve regional safety and security and improve the prosperity of rural Alberta, to name a few of the key goals. A successful SCC application will help achieve many broad benefits that will accrue to both rural and more urban areas within the Region.

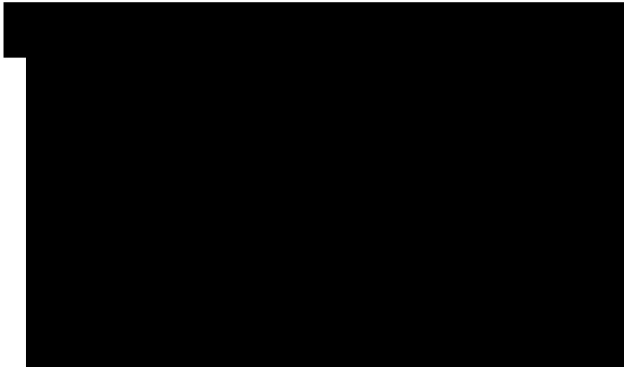
We understand that the SCC encourages communities to adopt a smart cities approach to improve the lives of their residents through innovation, data and connected technology. Parkland and partners have been shortlisted and invited to submit a full proposal that describes how a 'smart cities approach' will take advantage of the internet and its connected technologies to create and sustain rural communities. Given the areas economic base, there is a specific focus on agriculture, but spin-off benefits, employment and investment will be seen throughout the Region.

Creating a well-connected and competitive agricultural sector will be fundamental to our Region's long term prosperity. Growing demands to be electronically connected to markets, neighbours, academia, and the private sector will require greater levels of internet connectivity and cellular capabilities. In particular, this proposal will help improve safety and security for all, through connected transportation information and improved regional security. These challenges face rural as well as urban areas.

To this end, we provide this letter in support of the SCC application, and look forward to participating in the development, design and delivery of the initiative for the benefit of residents throughout the full Region.

Sincerely,





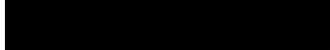
FEB 14 2019

Ms. Barb Scully,  
Smart Cities Coordinator  
Parkland County  
53109A Highway 779  
Parkland County AB T7Z 1R1


Dear Ms. Scully,

I am pleased to offer this letter of support for the joint Parkland, Brazeau, Yellowhead, and Lac Ste. Anne counties' proposal to Canada's Smart Cities Challenge (CSCC).

We understand that the CSCC encourages communities to adopt a smart cities approach to improve the lives of their residents through innovation, data, and connected technology. At its core, the Parkland and partners' proposal aims to increase the prosperity and safety of rural communities through the full use of integrated data and connected technologies.

The Parkland and partners' holistic proposal aligns with several  priorities related to innovation, information, and communication technologies; value-added agriculture; sustainable waste management; rural connectivity; and safety and security of communities.

The comprehensive Parkland and partners' proposal has the potential of generating economic, environmental, and social benefits for these communities and beyond.

 is hopeful the proposal to CSCC will be successful given the benefit it will provide to residents throughout the region and the province as a whole.

Sincerely,   


January 29, 2019

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed application to Canada's Smart Cities Challenge (SCC). When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an "Ag Innovation Lab" that will improve regional safety and security and improve the prosperity of rural Alberta, to name a few of the key goals. A successful SCC application will help achieve many broad benefits that will accrue to both rural and more urban areas within the Region.

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To this end, we provide this letter in support of the SCC application, and look forward to participating in the development, design and delivery of the initiative for the benefit of residents throughout the full Region.

Sincerely, [REDACTED]

## Fax Transmittal Sheet

ATIA - 13(1)(d)

ATIA - 19(1)

Fax Number: [REDACTED] @parkland County. com

Deliver to: [REDACTED]

From: [REDACTED]

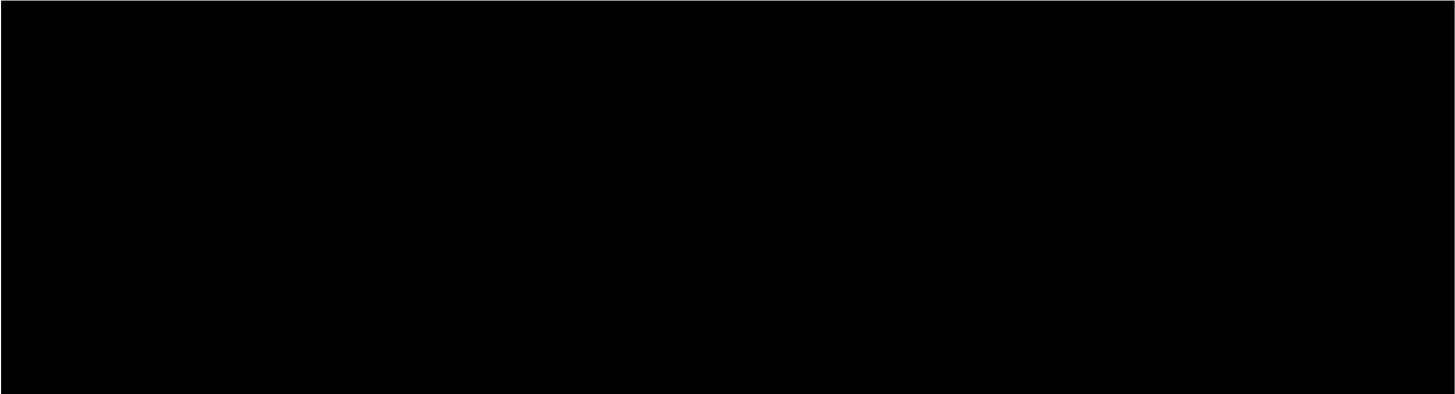
Date: Jan. 30/019

Re: [REDACTED] Ltr of Support

Additional Comments:

Number of pages faxed: (Including Cover Sheet) 2.

If you do not receive all of the pages, please contact this department at:  
[REDACTED]



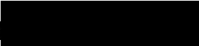
January 29, 2019

ATIA - 13(1)(d)

ATIA - 19(1)

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB T7Z 1R1

Dear Ms Scully:

On behalf of  I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed application to Canada's Smart Cities Challenge (SCC). When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an "Ag Innovation Lab" that will improve regional safety and security and improve the prosperity of rural Alberta, to name a few of the key goals. A successful SCC application will help achieve many broad benefits that will accrue to both rural and more urban areas within the Region.

We understand that the SCC encourages communities to adopt a smart cities approach to improve the lives of their residents through innovation, data and connected technology. Parkland and partners have been shortlisted and invited to submit a full proposal that describes how a 'smart cities approach' will take advantage of the internet and its connected technologies to create and sustain rural communities. Given the area's economic base, there is a specific focus on agriculture, but spin-off benefits, employment and investment will be seen throughout the Region.

Creating a well-connected and competitive agricultural sector will be fundamental to our Region's long term prosperity. Growing demands to be electronically connected to markets, neighbours, academia, and the private sector will require greater levels of internet connectivity and cellular capabilities. In particular, this proposal will help improve safety and security for all, through connected transportation information and improved regional security. These challenges face rural as well as urban areas.

To this end, we provide this letter in support of the SCC application, and look forward to participating in the development, design and delivery of the initiative for the benefit of residents throughout the full Region.

Sincerely,



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] strongly endorses the Parkland, Brazeau, Lac Ste. Anne, and Yellowhead Counties proposal to Smart Cities. Building a data mobilization platform that is underpinned with a Data Trust is the only way to address and benefit from the deluge of data being produced in the agri-food and agri-support sectors. Building AI platforms that ensure data security and sovereignty is vital to the economic prosperity of Canada. Moreover, this is an important milestone because establishing a network that generates vast amounts of data for use and monetization by Canadians will help mitigate the current practice of foreign technology companies using predatory data practices to control a locally generated resource (data).

[REDACTED] over the length of this initiative (five years) to support the AGora in operationalizing the Data Trust platform and onboarding and training new producers, owners, and users of data in the agri-food sector. This proposal is of great interest because of its: comprehensive approach to connecting technology with domain-based expertise, focus on improving the conditions required to accelerate market penetration of AI tools in Canada, commitment to developing new IP through the collaborative efforts of data producers and users, and the ability to increase Canada's global competitiveness.

We look forward to working with the AGora team on this very significant endeavour.

Respectfully submitted by

[REDACTED]



**Design Team Member – Letter of Support**

Ms Barb Scully  
Smart Cities Coordinator  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

[REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC).

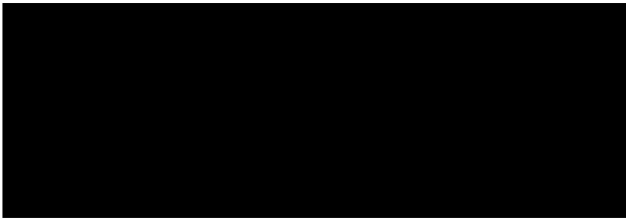
When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an AG Innovation Lab – the "Agora" – that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies. Thriving rural communities through improved use of connected technologies is our central goal.

Multiple outcomes will be achieved, foremost of which are the positioning of highly localized services focused on rural and farm operations, "data as a second crop", and connectivity on par with urban regions of Canada. Yes, there are fundamental challenges. We believe the strategy we have developed together will address these challenges, and many others, that face more rural regions of Canada. We are also confident our proposed solution will be transferable to any rural region in the country.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for more rural regions of Canada. Given the economic base of the four sponsoring counties, there is a specific focus on agriculture in the proposal, but spin-off benefits, employment and investment will be seen throughout the region.


To this end, I am providing this letter in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.


[REDACTED]





Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:


On behalf of the  I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a proposal for Canada's Smart "Cities" Challenge (SCC).

 seeks to support efforts that will deliver technology-based products and services to rural regions of Alberta in ways that will help them drive innovation and prosperity. To that end, we offer our support for the proposed initiative to create an Ag Innovation Lab that will deliver localized information to rural and farm communities and enable them to better leverage the internet and other connected technologies.

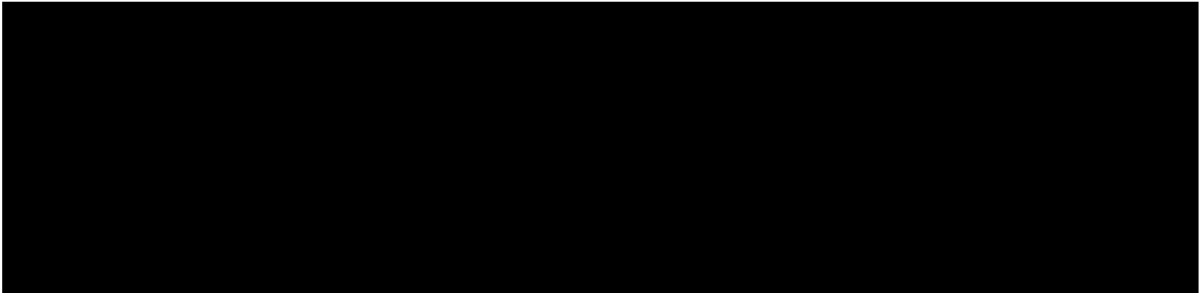
 can bring to the project both our expertise in artificial intelligence and machine learning as well as essential resources to help drive the project toward a successful outcome. Through our  we can also facilitate connections with a diversity of industrial, academic and governmental affiliates and partners.

Given the formative nature of the proposal, we recognize that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. We wish to continue our discussions, following the awarding of the \$10M, to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of  in support of the SCC application. We look forward to participating in the full delivery of the initiative to benefit residents throughout the region.

Regards,



[REDACTED]

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of securing upwards of \$10M in Federal funding.

[REDACTED] dedicated to supporting the development of innovative geospatial technology, which is crucial to the successful development of smart cities. Accordingly, we are supportive of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

[REDACTED]

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for rural regions of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local solutions to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.

Best Regards,

[REDACTED]

Feb 11, 2019

Ms. Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms. Scully:

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that geographic data and connective technologies can offer. [REDACTED] has a long track record of supporting urban municipalities and we look forward to seeing how the SCC initiative can grow sense of community rural regions of Canada centered around initiatives focused on: 1) Economic Development for regional agricultural sector, 2) Public Safety reduced rural crime, and 3) Vision Zero to reduce highway/ag vehicle collisions.

[REDACTED] We understand that the SCC will need to expand internet connectivity across the Region to support the Ag Innovation Lab – the "AGora" which will deliver hyper-local information to rural and farm communities and take full advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Our particular interest is in planning and joint development of Open Data with [REDACTED] for citizen collaboration. [REDACTED] is now available in three of four participating counties. We would also like to explore deployment of a shared, cloud-based IoT platform using [REDACTED] for managing precision agriculture sensor data, aerial drone data, and performing geographic analysis to improve sustainability and safety.

We expect long term mutual benefits to be delivered through [REDACTED] or kindergarten to grade 12, and Higher Education support for partnerships at college and university, we see ways of supporting joint development of regional pilot projects aimed at expanding research capabilities and improving community collaboration.

Our expertise includes [REDACTED] which can deliver fundamental value to this initiative.

We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Sincerely,


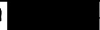
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
January 21<sup>st</sup>, 2019

Ms. Barb Scully  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1


**Re: Infrastructure Canada's Smart Cities Challenge Proposal**

Dear Ms. Scully,

On behalf of the  I am pleased to affirm  support for the proposal being developed collectively by Parkland, Brazeau, Yellowhead, and Lac Ste. Anne Counties as finalists for the \$10M prize category in Infrastructure Canada's Smart Cities Challenge. This initiative will build on work currently underway to expand internet connectivity across the region and create an Ag Innovation Lab – the “AGora” – that will deliver hyper-local information to rural and farm communities in order to take advantage of the social nature of the internet and its connected technologies. Supporting rural communities and businesses through the improved use of connected technologies is a goal we heartily endorse.

 anticipates that multiple important outcomes will be achieved, including the positioning of highly localized information services focused on rural and farm operations, “data as a second crop”, and internet connectivity on par with urban regions of Canada. We believe this collaboration to be well aligned to  vision to help industry foster new opportunities and enhance the region's economic growth and development. We partner with industry to solve problems that matter to them, working to benefit Alberta's key sectors: energy and environment; construction and trades; the bio-economy; health and care; and business, productivity and entrepreneurship that, together, impact over 90% of the province's economy. Innovation in these sectors doesn't happen just in large centres, instead industry competes and thrives in communities urban and rural across our province and across Canada.

We understand that the Smart Cities Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. Given the economic base of the four participating counties, there is a specific focus on agriculture in the proposal, but increasing spin-off benefits to the region such as employment, applied research, the training of highly qualified personnel (HQP), and investment will be seen throughout the region. We are confident the proposed solution will be transferrable to any rural region in the country.



We look forward to your consideration and assessment of the proposal, and to our continued collaboration with Parkland, Brazeau, Yellowhead, and Lac Ste. Anne Counties as we deliver the AGora initiative to the benefit of residents and businesses throughout the Region.

Sincerely,








## Future Collaborators – Letter of Support

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of  I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.

We expect mutual benefits to be delivered. Our expertise includes the sensors and the Internet-of-Things (IoT) hardware used as the entry points for understanding our physical reality and status of the various aspects of our Community today; the IoT connectivity platforms and wireless and wireline networks that bring the digital representation of the physical world collected by these sensors into the cloud world for analysis; the actual cloud and data centre resources necessary to process this newly gained information and keep it secure and private to Canadian regulatory requirements; an entire ecosystem of Smart City and Community point/departmental solutions selected from best-of-breed and global partnerships and Canadianized to meet required Federal and Provincial compliance; a command and control Platform for aggregating these independent point solutions into a holistic Smart Community

management model; and the development, integration, deployment, support, and hosted monitoring options necessary to ensure your Community can succeed today and be positioned to take advantage of advancements as they surface tomorrow,, which can deliver fundamental value to this initiative. We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Sincerely,



## Future Collaborators – Letter of Support

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.

[REDACTED]

We expect mutual benefits to be delivered. Our expertise includes a strong foundation in [REDACTED] which can deliver fundamental value to this initiative. We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims. To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Sincerely,

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED], I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). [REDACTED]

When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies. Thriving rural communities through improved use of connected technologies is our central goal.


Multiple outcomes will be achieved, foremost of which are the positioning of highly localized services focussed on rural and farm operations, "data as a second crop", and connectivity on par with urban regions of Canada. Yes, these are fundamental challenges. We believe the strategy we have developed together will address these challenges, and many others, that face more rural regions of Canada. We are also confident our proposed solution will be transferrable to any rural region in the country.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for more rural regions of Canada. Given the economic base of the four sponsoring counties, there is a specific focus on agriculture in the proposal, but spin-off benefits, employment and investment will be seen throughout the Region.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.



Sincerely,

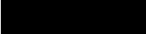
[REDACTED]



Ms. Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms. Scully:

I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead, and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC).   


 involved in expanding the availability and use of broadband in rural communities. This proposal while addressing essential infrastructure issues take us the necessary step beyond into effective use of the technology to sustain and grow vibrant rural communities.

When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies. Thriving rural communities through improved use of connected technologies is our central goal.

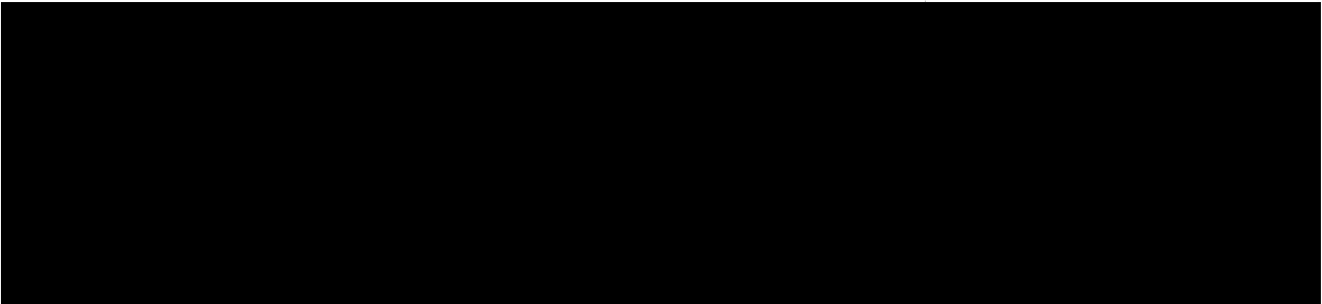
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We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for more rural regions of Canada. Given the economic base of the four sponsoring counties, there is a specific focus on agriculture in the proposal, but spin-off benefits, employment, and investment will occur throughout the Region.

To this end, I am providing this in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Yours truly,





February 10, 2019

**Ms Barb Scully,**  
**Smart Cities Coordinator, Parkland County**  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.



We expect mutual benefits to be delivered. [REDACTED]

[REDACTED] which can deliver fundamental value to this initiative. We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the region.

Sincerely,

[REDACTED]



## Future Collaborators – Letter of Support

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of the [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of interest include: joint design and/or development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual interest.

We expect mutual benefits to be delivered, augmenting the research and training opportunities that the [REDACTED] can provide. [REDACTED]

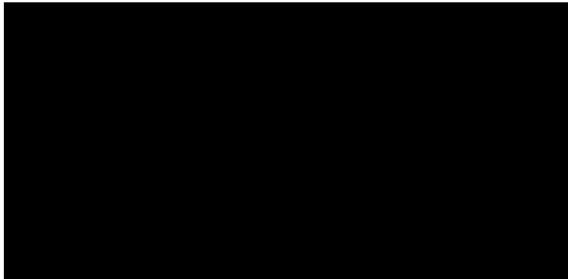
[REDACTED] We wish to continue our discussions following the awarding of the \$10M, to define specific goals to achieve our mutual aims.

Smart Cities Challenge - Update and Issues

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To this end, I am providing this letter on behalf of the [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Sincerely yours,



January 15, 2019

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). [REDACTED]

When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies. Thriving rural communities through improved use of connected technologies is our central goal.

Multiple outcomes will be achieved, foremost of which are the positioning of highly localized services focussed on rural and farm operations, "data as a second crop", and connectivity on par with urban regions of Canada. Yes, these are fundamental challenges. We believe the strategy we have developed together will address these challenges, and many others, that face more rural regions of Canada. We are also confident our proposed solution will be transferrable to any rural region in the country.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for more rural regions of Canada. Given the economic base of the four sponsoring counties, there is a specific focus on agriculture in the proposal, but spin-off benefits, employment and investment will be seen throughout the Region.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Sincerely,

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). [REDACTED]

When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies. Thriving rural communities through improved use of connected technologies is our central goal.

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To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Sincerely,

[REDACTED]

[REDACTED]

Ms. Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). [REDACTED]

When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies. Thriving rural communities through improved use of connected technologies is our central goal.

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To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Thank you so much for this opportunity.

Regards [REDACTED]

[REDACTED]

[REDACTED]

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED] am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). [REDACTED]

When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" – that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies. Thriving rural communities through improved use of connected technologies is our central goal.


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To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

[REDACTED] Jan 16 / 18





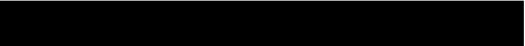

ATIA - 13(1)(d)

ATIA - 19(1)

## Design Team member – Letter of Support

Ms. Barb Scully  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1


Dear Ms. Scully:

On behalf of  I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). 

When successful, this initiative will support work now underway to expand internet connectivity across the region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies. Thriving rural communities through improved use of connected technologies is our central goal.

We believe the strategy we have developed together will address these challenges, and many others, that face more rural regions of Canada. We are also confident our proposed solution will be transferrable to any rural region in the country.

We look forward to seeing how the SCC initiative can do the same and more for more rural regions of Canada. Given the economic base of the four sponsoring counties, there is a specific focus on agriculture in the proposal, but spin-off benefits, such as employment and investment will be seen throughout the region.

 is in support of the SCC application, and we look forward to participating in the full delivery of the initiative to benefit residents throughout the region.

Best regards,



[REDACTED]

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). [REDACTED]

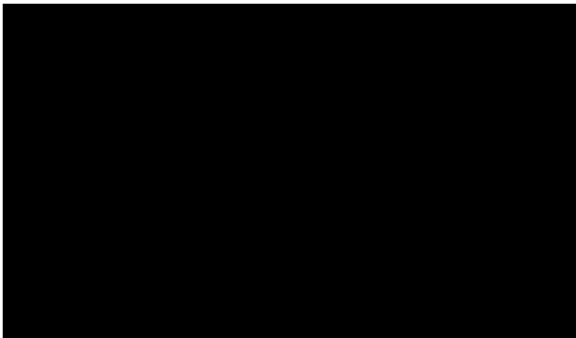
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We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for more rural regions of Canada. Given the economic base of the four sponsoring counties, there is a specific focus on agriculture in the proposal, but spin-off benefits, employment and investment will be seen throughout the Region.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.


[REDACTED]



December 20, 2018

Ms Barb Scully  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

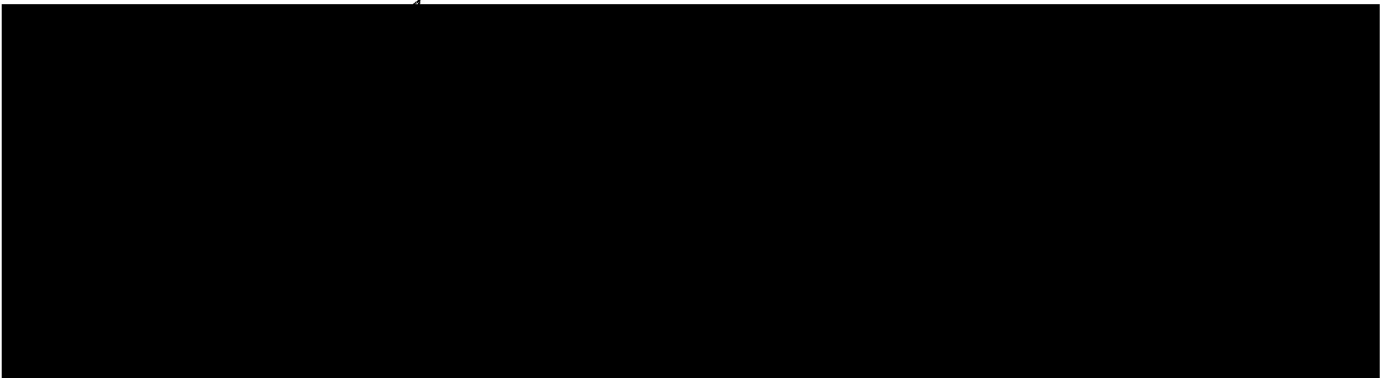
On behalf of the  I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed application to Canada's Smart Cities Challenge (SCC). When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an "Ag Innovation Lab" that will improve regional safety and security and improve the prosperity of rural Alberta, to name a few key goals. A successful SCC application will help achieve many broad benefits that will accrue to both rural and more urban areas within the Region.


We understand that the SCC encourages communities to adopt a smart cities approach to improve the lives of their residents through innovation, data and connected technology. Parkland and partners have been shortlisted and invited to submit a full proposal that describes how a 'smart cities approach' will take advantage of the internet and its connected technologies to create and sustain rural communities. Given the local conditions, there is a specific focus on agriculture, but spin-off benefits, employment and investment will be seen throughout the Region. As a significant service centre for the Region, this is of great interest to our community.

Creating a well-connected and competitive agricultural sector will be fundamental to our Region's long term prosperity. Growing demands to be electronically connected to markets, neighbours, academia, and the private sector will require greater levels of internet connectivity and cellular capabilities. In particular, this proposal will help improve safety and security for all, through connected transportation information and improved regional security. These challenges face rural as well as urban areas. Our community continues to expand its connectivity base that may provide synergies to the anticipated work across the four counties.

To this end, we provide this letter in support of the SCC application, and look forward to participating in the development, design and delivery of the initiative for the benefit of residents throughout the full Region. We look forward to future discussion in this regard to confirm respective roles.

Sincerely,






January 17, 2019

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1


Dear Ms Scully:

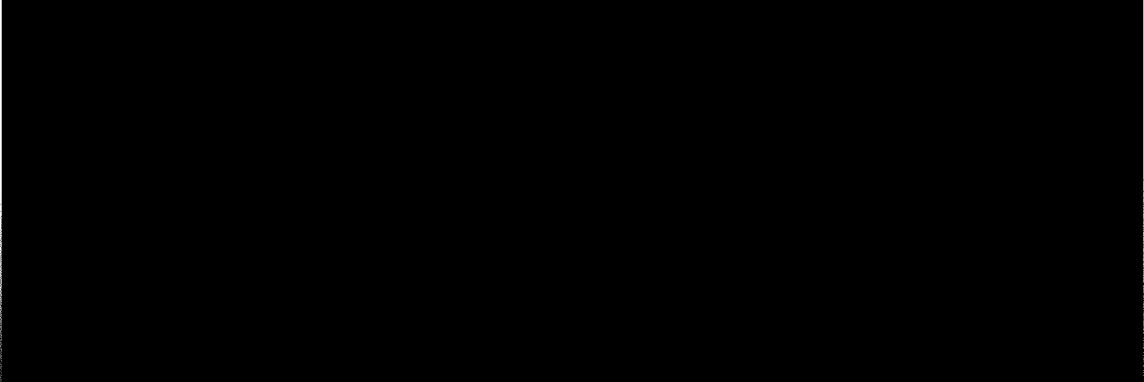
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Creating a well-connected and competitive agricultural sector will be fundamental to our Region's long term prosperity. Growing demands to be electronically connected to markets, neighbours, academia, and the private sector will require greater levels of internet connectivity and cellular capabilities. In particular, this proposal will help improve safety and security for all, through connected transportation information and improved regional security. These challenges face rural as well as urban areas.

To this end, we provide this letter in support of the SCC application, and look forward to participating in the development, design and delivery of the initiative for the benefit of residents throughout the full Region.

Regards 






February 7, 2019

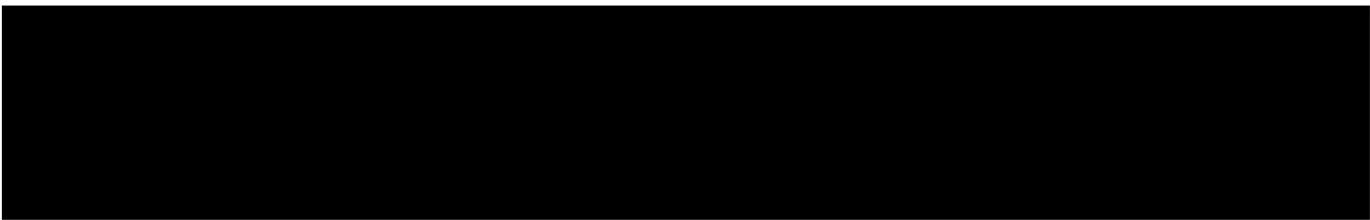
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53109A Highway 779  
Parkland County, AB  
T7Z 1R1

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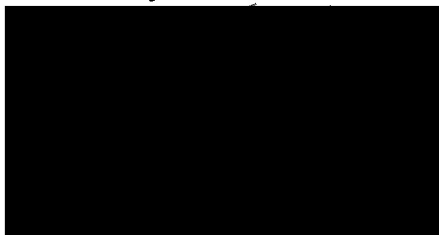
We understand that the SCC encourages communities to adopt a smart cities approach to improve the lives of their residents through innovation, data and connected technology. Parkland and partners have been shortlisted and invited to submit a full proposal that describes how a 'smart cities approach' will take advantage of the internet and its connected technologies to create and sustain rural communities. Given the local conditions, there is a specific focus on agriculture, but spin-off benefits, employment and investment will be seen throughout the Region. As a significant service centre for the Region, this is of great interest to our community.

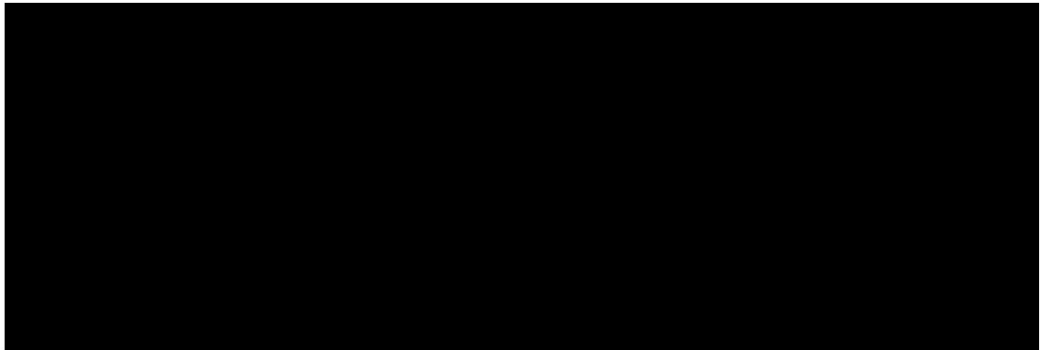
Creating a well-connected and competitive agricultural sector will be fundamental to our Region's long term prosperity. Growing demands to be electronically connected to markets, neighbours, academia, and the private sector will require greater levels of internet connectivity and cellular capabilities. In particular, this proposal will help improve safety and security for all, through connected transportation information and improved regional security. These challenges face rural as well as urban areas. Our community continues to expand its connectivity base that may provide synergies to the anticipated work across the four counties.



To this end, we provide this letter in support of the SCC application, and look forward to participating in the development, design and delivery of the initiative for the benefit of residents throughout the full Region. We look forward to future discussion in this regard to confirm respective roles.

Sincerely,





January 16, 2019

Ms. Barb Scully  
Smart Cities Coordinator  
Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

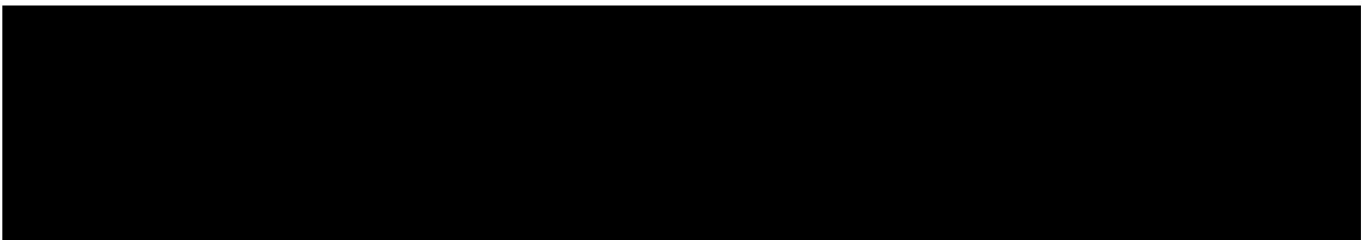
**RE: Smart Cities Challenge**

On behalf of the community of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed application to Canada's Smart Cities Challenge (SCC). When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an "Ag Innovation Lab" that will improve regional safety and security and improve the prosperity of rural Alberta, to name a few key goals. A successful SCC application will help achieve many broad benefits that will accrue to both rural and more urban areas within the Region.

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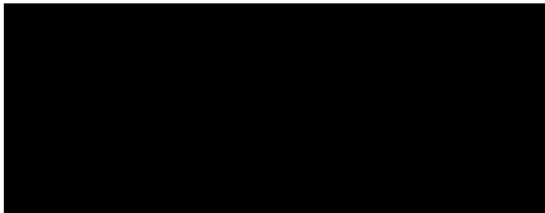
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Ms. Barb Scully  
January 16, 2019  
Page 2

To this end, we provide this letter in support of the SCC application, and look forward to participating in the development, design and delivery of the initiative for the benefit of residents throughout the full Region. We look forward to future discussion in this regard to confirm respective roles.

Sincerely,

A large black rectangular redaction box covering the signature and name of the sender.A black rectangular redaction box covering contact information, likely a phone number or email address.



February 20, 2019

Ms. Barb Scully  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB T7Z 1R1

**Attention: Ms. Barb Scully**


Dear Ms. Scully:

**Re: Letter in Support of Parkland County's Smart Cities Challenge Application**

On behalf of the [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed application to Canada's Smart Cities Challenge (SCC). When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an "Ag Innovation Lab" that will improve regional safety and security and improve the prosperity of rural Alberta, to name a few key goals. A successful SCC application will help achieve many broad benefits that will accrue to both rural and more urban areas within the Region.

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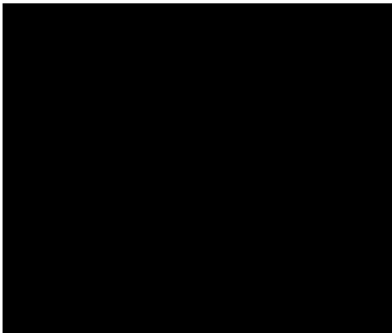
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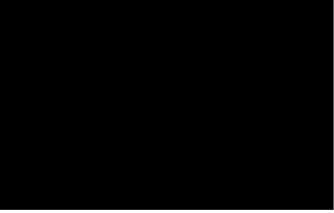


internet connectivity and cellular capabilities. In particular, this proposal will help improve safety and security for all, through connected transportation information and improved regional security. These challenges face rural as well as urban areas. Our community continues to expand its connectivity base that may provide synergies to the anticipated work across the four counties.

To this end, we provide this letter in support of the SCC application, and look forward to participating in the development, design and delivery of the initiative for the benefit of residents throughout the full Region. We look forward to future discussion in this regard to confirm respective roles.

Yours truly,





ATIA - 13(1)(d)


ATIA - 19(1)

February 15, 2019

Ms. Barb Scully  
Smart Cities Coordinator  
53109A Highway 779  
Parkland County AB T7Z 1R1

Dear Ms. Scully:

**RE: Municipal Letter of Endorsement**

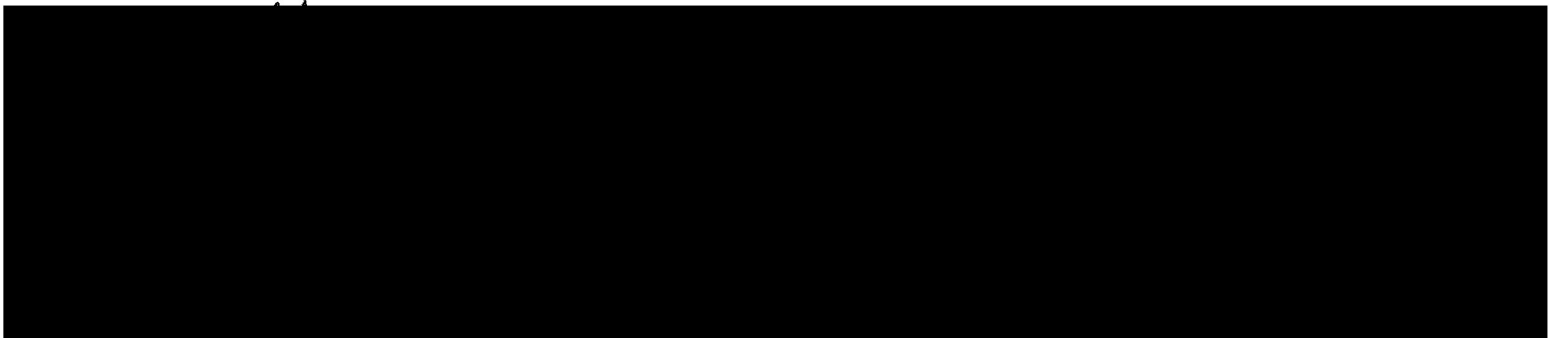
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To this end, we provide this letter in support of the SCC application, and look forward to participating in the development, design and delivery of the initiative for the benefit of residents throughout the full region. We look forward to future discussions in this regard to confirm respective roles.

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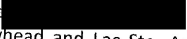




January 24, 2018

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB T7Z 1R1

Dear Ms Scully:

On behalf of the  I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed application to Canada's Smart Cities Challenge (SCC). When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an "Ag Innovation Lab" that will improve regional safety and security and improve the prosperity of rural Alberta, to name a few of the key goals. A successful SCC application will help achieve many broad benefits that will accrue to both rural and more urban areas within the Region.

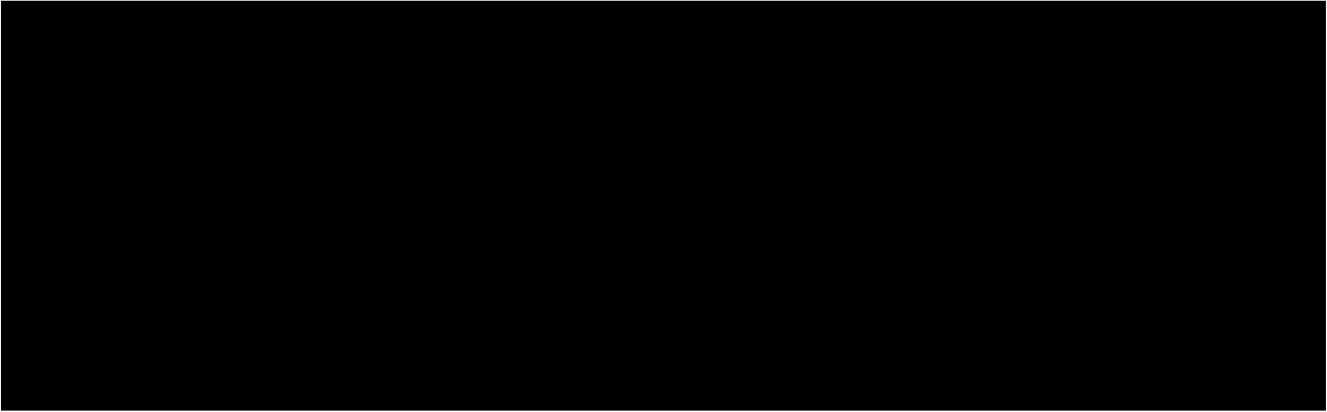
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To this end, we provide this letter in support of the SCC application, and look forward to participating in the development, design and delivery of the initiative for the benefit of residents throughout the full Region.

Sincerely,





February 5, 2019

Ms. Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms. Scully:


I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed application to Canada's Smart Cities Challenge (SCC). When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an "Ag Innovation Lab" that will improve regional safety and security and improve the prosperity of rural Alberta, to name a few of the key goals. A successful SCC application will help achieve many broad benefits that will accrue to both rural and more urban areas within the Region.

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To this end, we provide this letter in support of the SCC application, and look forward to participating in the development, design and delivery of the initiative for the benefit of residents throughout the full Region.


Sincerely,



## Future Collaborators – Letter of Support


Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1


Dear Ms Scully:

On behalf of  I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

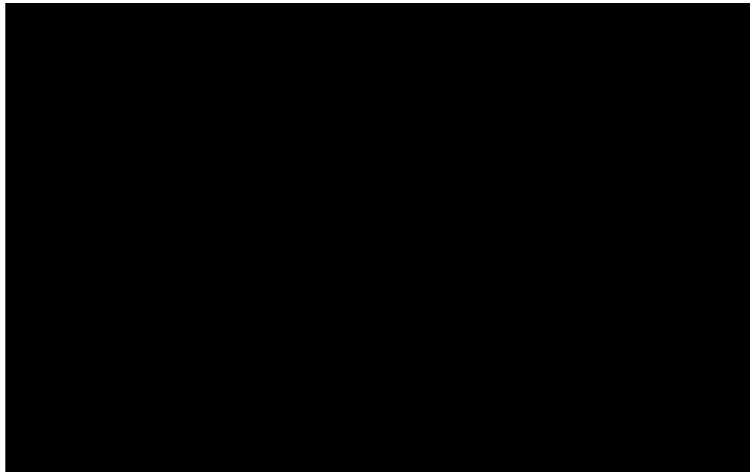
We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.





We expect mutual benefits to be delivered. [REDACTED] we support initiatives in our community that help with our social and economic development, especially in regard to technologies and bringing it to our cities.

Our expertise, which can deliver fundamental value to this initiative, includes:



We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Sincerely,



[REDACTED]

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

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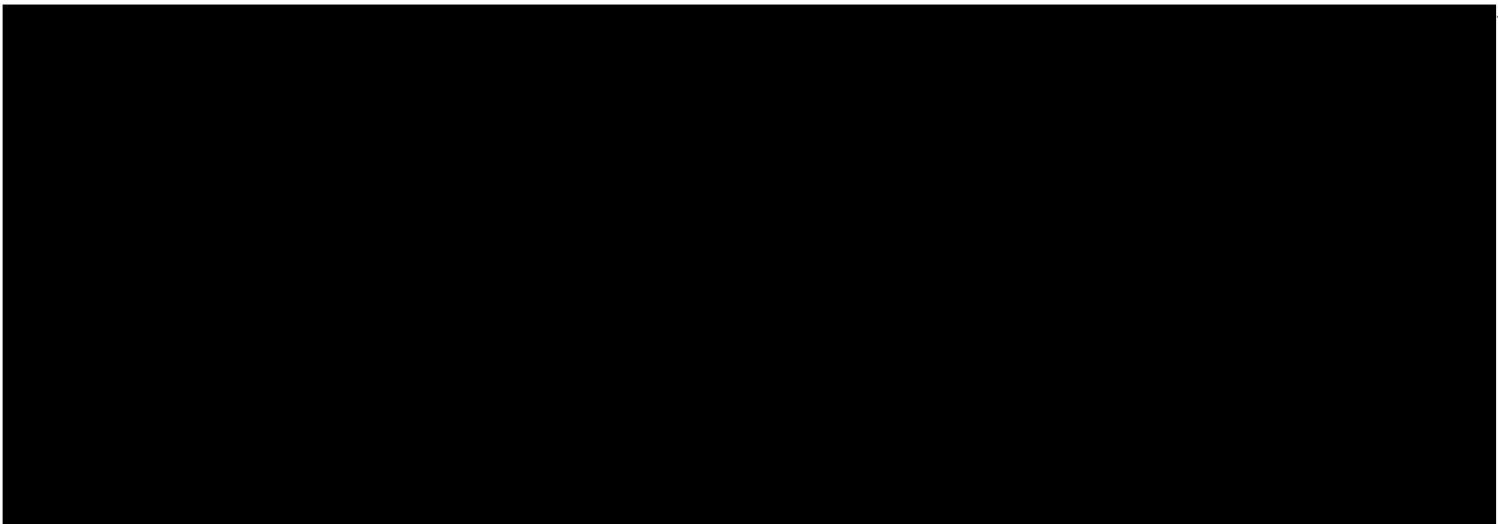
[REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed application to Canada's Smart Cities Challenge (SCC). When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an "Ag Innovation Lab" that will improve regional safety and security and improve the prosperity of rural Alberta, to name a few of the key goals. A successful SCC application will help achieve many broad benefits that will accrue to both rural and more urban areas within the Region.



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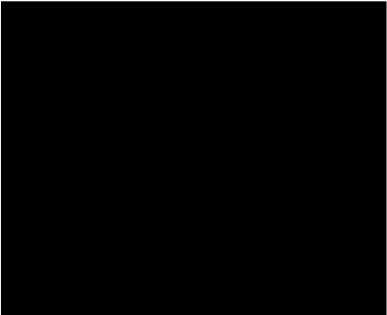
To this end, we provide this letter in support of the SCC application, and look forward to participating in the development, design and delivery of the initiative for the benefit of residents throughout the full Region.





If you require further information, please contact   
alternatively by telephone at 

Kind regards,

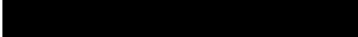




### Municipal Letter of Endorsement

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of  I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed application to Canada's Smart Cities Challenge (SCC). When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an "Ag Innovation Lab" that will improve regional safety and security and improve the prosperity of rural Alberta, to name a few of the key goals. A successful SCC application will help achieve many broad benefits that will accrue to both rural and more urban areas within the Region.

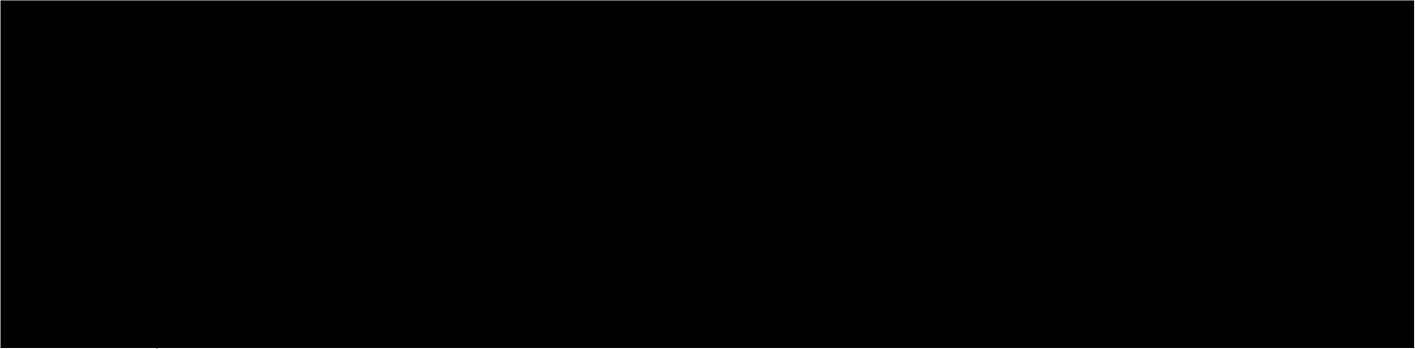
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Creating a well-connected and competitive agricultural sector will be fundamental to our Region's long term prosperity. Growing demands to be electronically connected to markets, neighbours, academia, and the private sector will require greater levels of internet connectivity and cellular capabilities. In particular, this proposal will help improve safety and security for all, through connected transportation information and improved regional security. These challenges face rural as well as urban areas.

To this end, we provide this letter in support of the SCC application, and look forward to participating in the development, design and delivery of the initiative for the benefit of residents throughout the full Region.

Best regards,





Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED], I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" – that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.

We expect mutual benefits to be delivered. Our expertise includes [REDACTED] applications, which can deliver fundamental value to this initiative. We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Sincerely,



February 12, 2019

Ms. Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms. Scully:

On behalf of the [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead, and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart Cities Challenge (SCC). Your proposal aims to leverage upwards of \$10M in federal funding to establish long-term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish, and the expertise that is needed to become successful.

We understand that the Smart Cities Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the region and create an Ag Innovation Lab – the AGora - that will deliver hyper-local information to rural and farm communities to take advantage of the virtual nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity, or other items of mutual benefit.

We expect mutual benefits to be delivered. Our expertise includes promoting, facilitating, and conducting applied research on rural innovation, rural infrastructure, regional economic development, and rural policy, which can deliver fundamental value to this initiative. We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of [REDACTED] to support the SCC application, and I look forward to participating in the full delivery of the initiative to benefit residents throughout the region.

ATIA - 19(1)

ATIA - 13(1)(d)

Sincerely,



Ms. Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB, T7Z 1R1

Re: Smart Cities Challenge Letter of Support and Future Collaboration.

Dear Ms. Scully:

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways that will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for other rural regions of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" – that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.

We expect mutual benefits to be delivered. [REDACTED]

[REDACTED] We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the project region and other areas of Canada.

Sincerely,

[REDACTED]

[REDACTED]

February 19, 2019

Ms. Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

ATIA - 13(1)(d)

ATIA - 19(1)

Dear Ms. Scully:

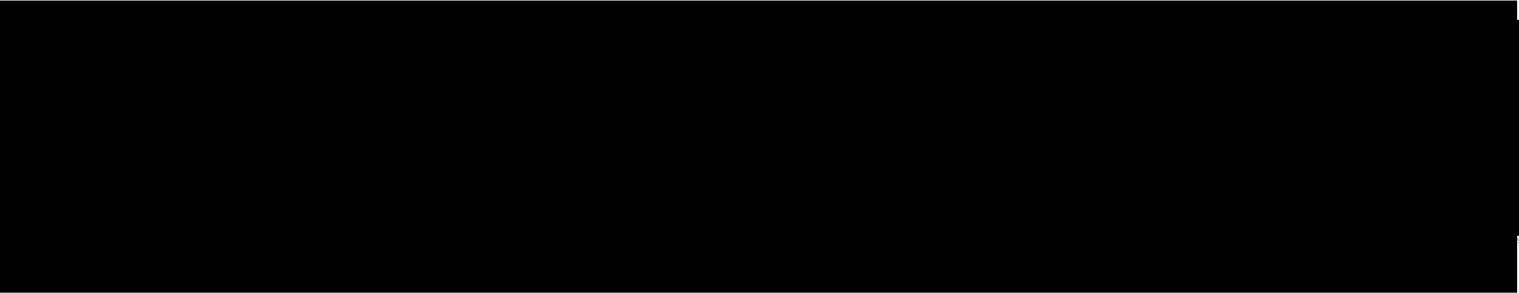
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[REDACTED]

[REDACTED] We wish to continue our discussions following the awarding of the \$10M to achieve the mutual benefits to be delivered.



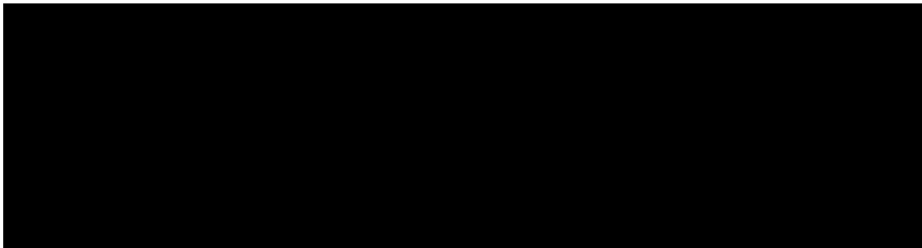
ATIA - 19(1)

ATIA - 13(1)(d)

At the core of this Expression of Interest (EOI) is the anticipation that Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties and  will continue to work collaboratively to build and enhance a strong relationship, which ensures mutually beneficial outcomes that are both immediate and take a long-term perspective. Except for the obligation to use commercially reasonable efforts in good faith negotiations, this EOI is not intended to create any binding obligations until a further definitive agreement is executed and delivered by the parties.

Sincerely,

*Original signed by*







[REDACTED]

ATIA - 13(1)(d)

[REDACTED]

ATIA - 19(1)

Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Attention: Ms Barb Scully, Smart Cities Coordinator

Re: Future Collaborators – Letter of Support

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.

We expect mutual benefits to be delivered. [REDACTED]

[REDACTED] We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

[REDACTED]

[REDACTED]

## Future Collaborators – Letter of Support

February 25, 2019

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.

We expect mutual benefits to be delivered. [REDACTED]

[REDACTED] We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Sincerely, [REDACTED]

## Design Team member – Letter of Support

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of the [REDACTED]

[REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). [REDACTED]

[REDACTED] Parkland County has generously identified high-performing agricultural producers and county representatives to help bridge the gap between [REDACTED] agriculture and the commercial industries. Your own creativity, connections and sense of team building bodes well for the success of this project. Throughout our weeks of discussions, I saw several places where there were opportunities for [REDACTED] to assist in your project. [REDACTED]

When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies. Thriving rural communities through improved use of connected technologies is our central goal. This initiative is a good fit for our increasing interest in precision agriculture as a discipline for educating our students.

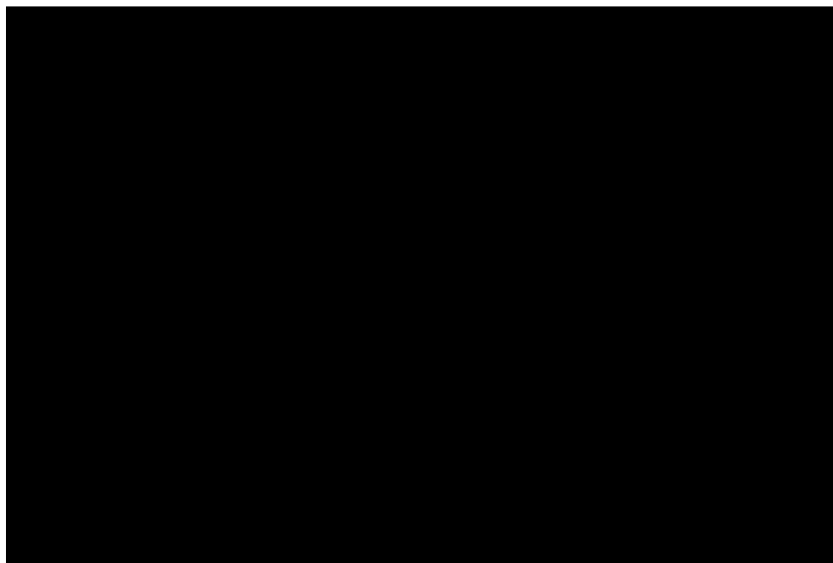
Multiple outcomes will be achieved, foremost of which are the positioning of highly localized services focussed on rural and farm operations, "data as a second crop", and connectivity on par with urban regions of Canada. Yes, these are fundamental challenges. We believe the strategy we have developed together will address these challenges, and many others, that face more rural regions of Canada. We are also confident our proposed solution will be transferrable to any rural region in the country.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for more rural regions of Canada. Given the economic base of the four sponsoring counties, there is a specific focus on agriculture in the proposal, but spin-off benefits, employment and investment will be seen throughout the Region.

ATIA - 13(1)(d)

ATIA - 19(1)

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.



## Future Collaborators – Letter of Support

Ms Barb Scully,  
 Smart Cities Coordinator, Parkland County  
 53109A Highway 779  
 Parkland County, AB  
 T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED] we are writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

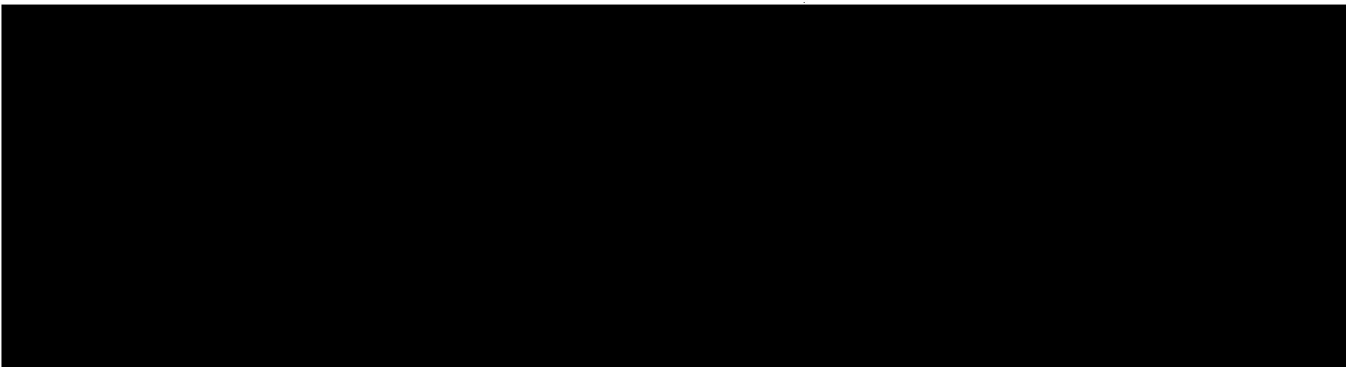
We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.

We expect mutual benefits to be delivered. Our expertise includes over a newly [REDACTED] which can deliver fundamental value to this initiative. We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Warm regards,



Ms. Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

February 14, 2019

Dear Ms Scully:

The [redacted] is pleased to support the Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties' proposal to Canada's Smart "Cities" Challenge (SCC). The proposal seeks to increase the prosperity and safety of rural communities through the full use of integrated data and connected technologies. This will require greater technology adoption, proper decision support tools and improved market linkages between rural/farm areas and urban Canada and beyond. Overall, this proposal seeks to create a more prosperous and safe way of life in rural Canada.

The [redacted] rural communities in meeting diverse challenges through fostering constructive dialogue, promoting interdisciplinary and collaborative research, and developing partnerships. [redacted]


[redacted] Such resilient rural communities will hinge on informed citizens actively participating in community governance and development in order to support and sustain the people, livelihoods, regional and local capital, economic development and long-term social viability of rural communities as a key element of the Canadian economy, the natural environment and as home to many Canadians. Your proposal to Canada's Smart "Cities" Challenge aligns with our mandate.

Should your proposal be successful, we welcome further discussion of the nature of our support in your work. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capacity, evidence-informed decisions and policies, connectivity or other items of mutual benefit. [redacted] we are uniquely positioned to provide this unique support.

I look forward to the successful outcome of your proposal.

Sincerely,





February 21, 2019

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1


Dear Ms Scully:

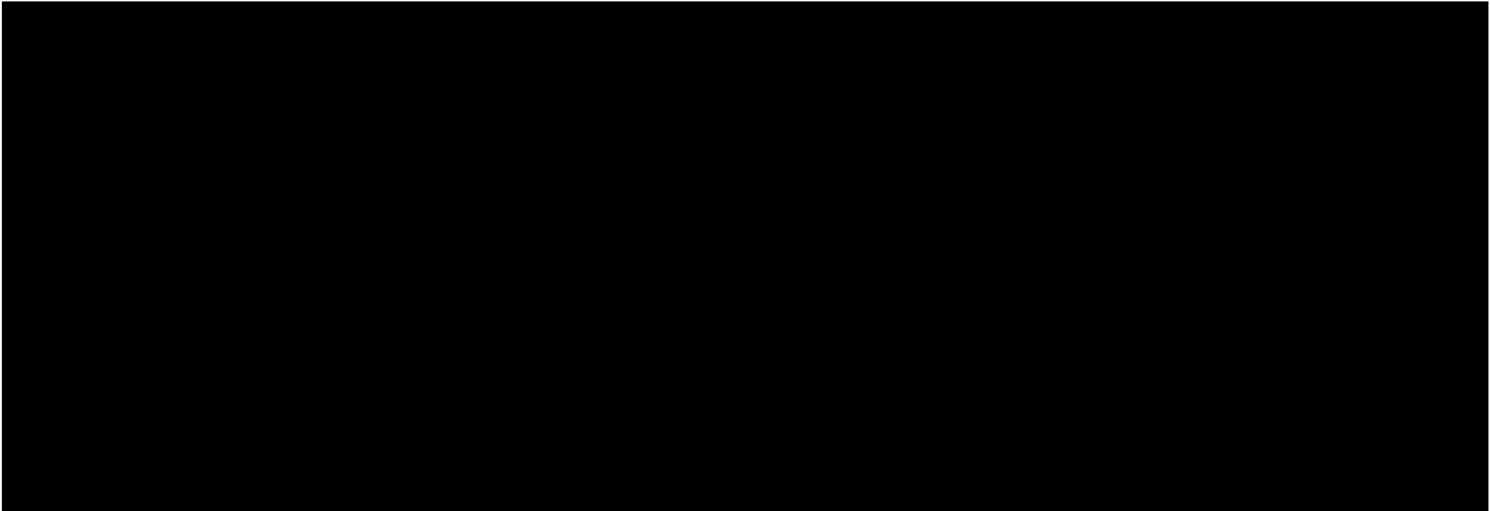
On behalf of the  I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC).

When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies. Thriving rural communities through improved use of connected technologies is our central goal.

Multiple outcomes will be achieved, foremost of which are the positioning of highly localized services focussed on rural and farm operations, "data as a second crop", and connectivity on par with urban regions of Canada. Yes, these are fundamental challenges. We believe the strategy we have developed together will address these challenges, and many others, that face more rural regions of Canada. We are also confident our proposed solution will be transferrable to any rural region in the country.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for more rural regions of Canada. Given the economic base of the four sponsoring counties, there is a specific focus on agriculture in the proposal, but spin-off benefits, employment and investment will be seen throughout the Region.

To this end, I am providing this letter on behalf of  in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.





**Design Team member – Letter of Support**

Ms. Barb Scully  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB T7Z 1R1

Dear Ms. Scully:

On behalf of the [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). [REDACTED]

When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies. Thriving rural communities through improved use of connected technologies is our central goal.

Multiple outcomes will be achieved, foremost of which are the positioning of highly localized services focussed on rural and farm operations, "data as a second crop", and connectivity on par with urban regions of Canada. Yes, these are fundamental challenges. We believe the strategy we have developed together will address these challenges, and many others, that face more rural regions of Canada. We are also confident our proposed solution will be transferrable to any rural region in the country.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for more rural regions of Canada. Given the economic base of the four sponsoring counties, there is a specific focus on agriculture in the proposal, but spin-off benefits, employment and investment will be seen throughout the Region.

To this end, I am providing this letter on behalf of the [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Sincerely,

[REDACTED]

## Future Collaborators – Letter of Support

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms Scully:

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" – that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.

We expect mutual benefits to be delivered. Our expertise includes all aspects of Information Technology design, installation and maintenance including fiber, wireless, copper and all technologies associated, which can deliver fundamental value to this initiative. We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Thank you,

[REDACTED]

Ms Barb Scully  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Barb,

[REDACTED] is pleased to confirm our strong support for your Canadian Smart Cities Challenge (SCC) application.

[REDACTED]

The SCC objectives of enhanced rural connectivity, economic development and improved digital literacy align well with [REDACTED] to support the research and education sector in the province especially in relation to the project's goals of providing access for all. We are especially keen to bring our expertise in data science to your Ag-Innovation Lab work in addition to the assistance we can provide with connectivity.

We look forward to working with you and other project partners on this exciting project.

Yours truly,

[REDACTED]

February 28, 2019

Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Attention: Ms. Barb Scully, Smart Cities Coordinator

RE: Letter of Support  
SCC Project

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On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long-term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.

We expect mutual benefits to be delivered. Our expertise includes the development and implementation of electric distribution systems, which expertise we believe extends to the design and implementation of other utility distribution systems, which can deliver fundamental value to this initiative. We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Sincerely,

[REDACTED]

[REDACTED]

[REDACTED]

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Mar 1, 2019

**RE: Parkland County's Canada's Smart "Cities" Challenge Proposal**

Please accept this letter as an expression of [REDACTED] support for Parkland County's participation in a submission to Canada's Smart "Cities" Challenge (SCC).

[REDACTED] has been a provider of essential services and infrastructure to Albertans for more than [REDACTED] and is an active partner in hundreds of communities around the world. These experiences have provided [REDACTED] with the unique opportunity to solve challenges for customers in a way that benefits their community, environment and local economy. From innovative solar projects like the [REDACTED] to distributed generation technologies like [REDACTED] [REDACTED] has been pioneering innovative, customer solutions as a leading integrated energy infrastructure provider.

[REDACTED] understands that the SCC is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada.

As part of the submission, [REDACTED] is particularly interested in participating with the joint development of systems and services, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit. [REDACTED] can provide expertise in all facets of utility services to customers – [REDACTED]

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Please contact me with any additional questions or comments.

Sincerely,

[REDACTED]

ATIA - 13(1)(d)

ATIA - 19(1)

February 4, 2019

Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Re: **Future Collaborators – Letter of Support**

Dear Ms Scully:

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper into the future, with an aim of leveraging upwards of \$10M in Federal funding to these ends. We wish to be part of this initiative, as we believe we bring strong connections to the markets you are seeking to expand, resources you are looking to establish and the expertise that is needed to become successful.


We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can do the same and more for a more rural region of Canada. When successful, this initiative will support work now underway to expand internet connectivity across the Region and create an Ag Innovation Lab – the "AGora" - that will deliver hyper-local information to rural and farm communities to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.

We expect mutual benefits to be delivered. Our expertise includes research in precision agriculture as well as solutions such as the [REDACTED] which can deliver fundamental value to this initiative. We wish to continue our discussions following the awarding of the \$10M, to define how we will work to achieve these mutual aims.


To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.


Sincerely,

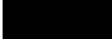
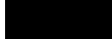



Ms. Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1


Dear Ms. Scully (Barb):

I am writing on behalf of  to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart Cities Challenge (SCC). Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways that will help them prosper into the future, with an aim of leveraging up to \$10M of federal government funding awarded through the SCC.

 wishes to be part of your initiative, as we believe we bring helpful connections to the markets you are seeking to expand and expertise that you will require for success. Our understanding is that the SCC is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We are sincerely hopeful that the SCC initiative will be expanded and leveraged to bring these benefits to rural Canada. If your proposal is successful, it will support work already underway to improve connectivity throughout the SCC footprint and create an 'agricultural innovation lab' called the AGora that will deliver hyper-local information to rural and farm communities to take advantage of the virtual nature of the Internet and connected technologies.

 would welcome the opportunity to help Parkland County and its partners succeed. Given the formative nature of your SCC proposal, we understand that any future working relationship would begin with a discussion leading to mutual agreement. Areas of particular interest to  include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other opportunities of mutual benefit.

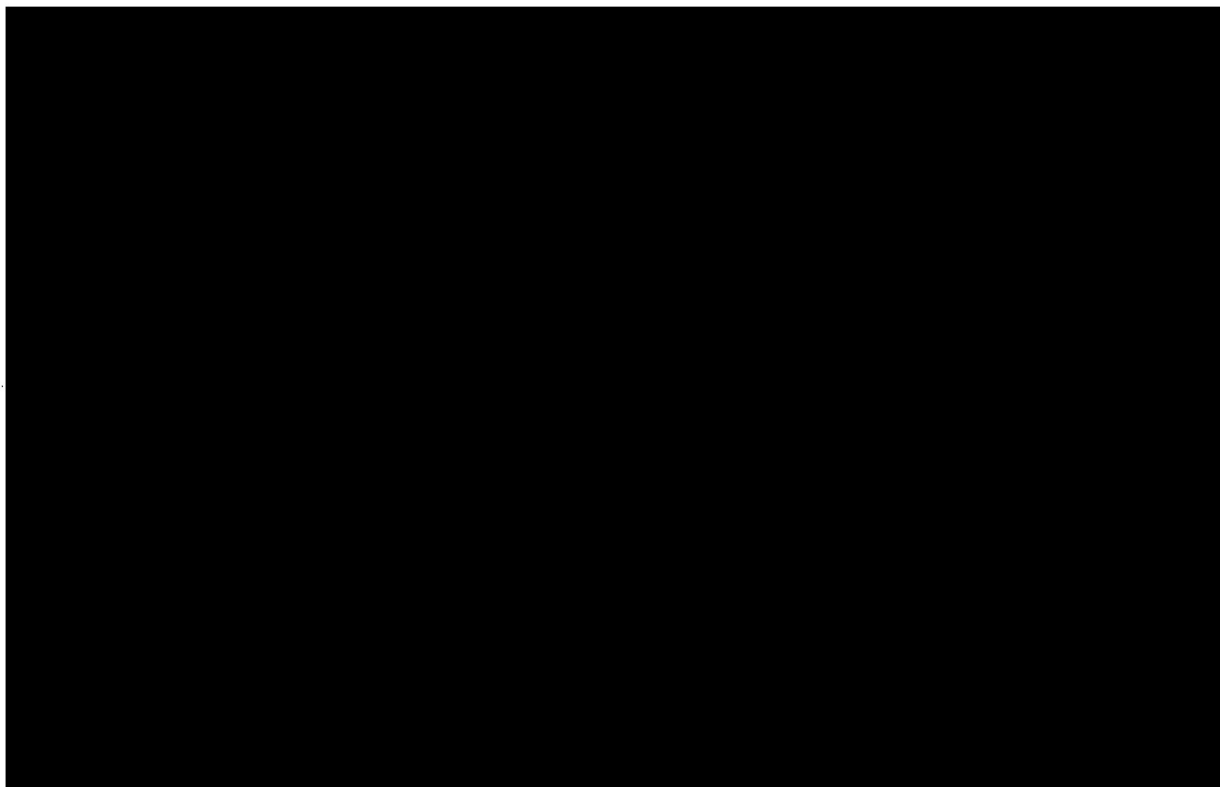
Our company profile below summarizes the insight and expertise we would offer to the project you will be proposing to the SCC. We look forward to further discussion if your proposal is successful, to explore how we might work together to mutual benefit.  offers this letter in support of your proposal, and looks forward to helping ag operators and communities in the SCC footprint realize the full potential of digital innovation.



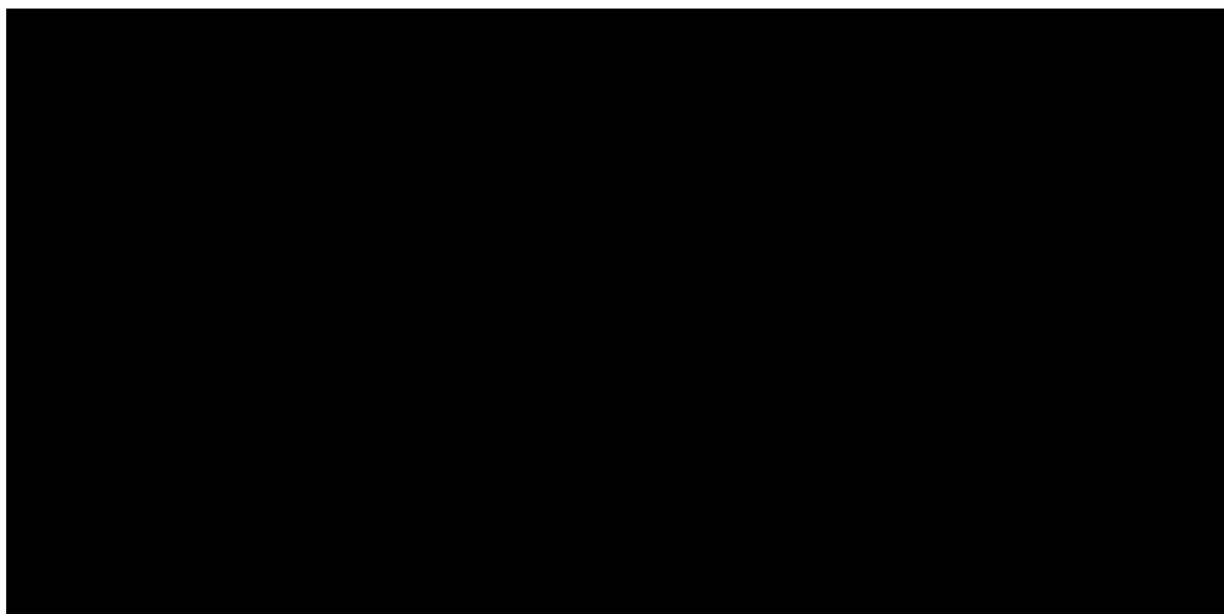
Creek, AB



## Company Profile



## Principals



## Letter of Support

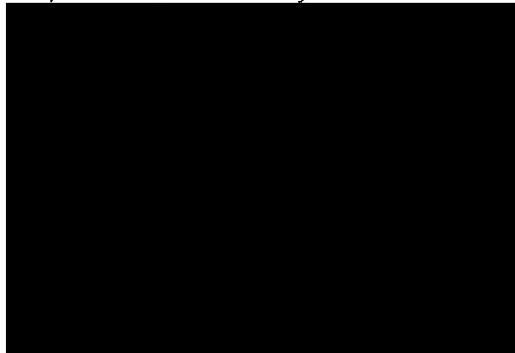
Ms Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

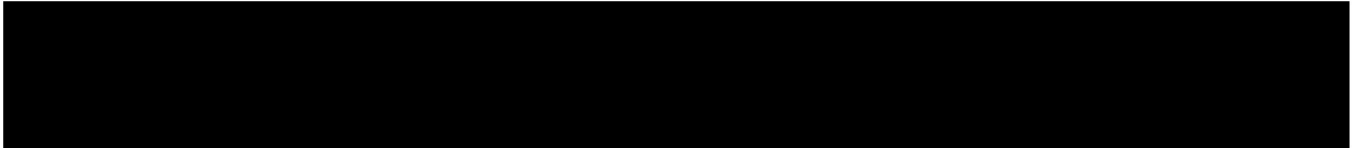
Dear Ms Scully:

On behalf of [REDACTED] I am writing to confirm our support for the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal to Canada's Smart "Cities" Challenge (SCC). We understand that your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada and to help them prosper into the future.

We understand that the Smart "Cities" Challenge is designed to improve the lives of Canadians by leveraging the fundamental benefits that data and connected technologies can offer. We look forward to seeing how the SCC initiative can provide benefits to rural regions across Canada.

We are interested in responding to any tender process for collaboration or engagements that may result from your initiative, including development of systems and services across the four participating counties, and development of pilot projects aimed at expanding research capabilities, connectivity or other items.

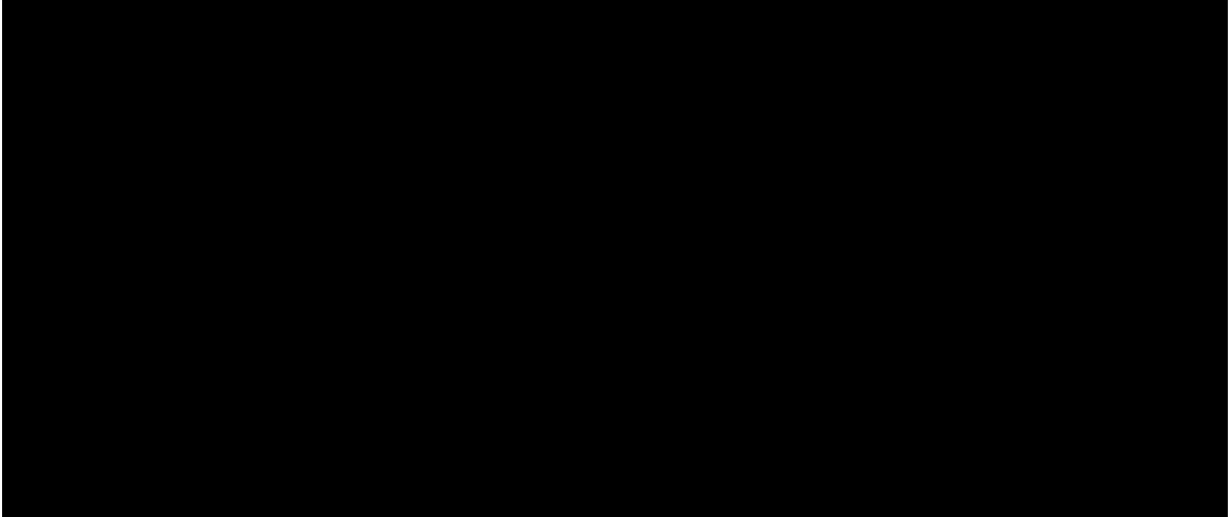




Ms. Barb Scully,  
Smart Cities Coordinator, Parkland County  
53109A Highway 779  
Parkland County, AB  
T7Z 1R1

Dear Ms. Scully,

We are pleased to offer our support and endorse the collective efforts of Parkland, Brazeau, Yellowhead, and Lac Ste. Anne Counties with regards to your proposal being submitted to Canada's "Smart Cities Challenge" (SCC).

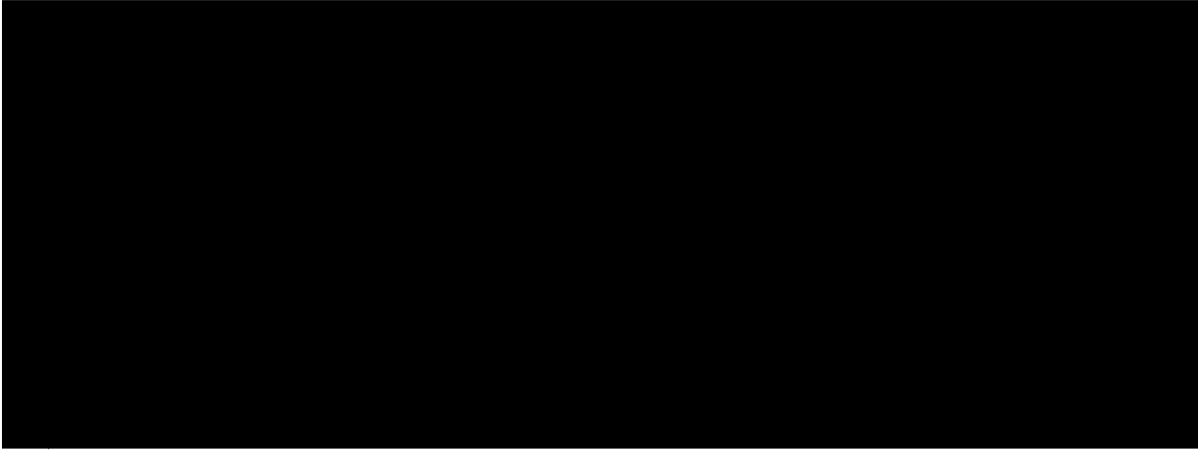


Utilities in the future must embrace new tools and services demanded by "Smart Cities" & "Smart Metering". As such, we are extremely interested in working with you in support of your vision.

Your proposal seeks to establish long term relationships with companies that share a joint interest in delivering technology-based products and services to more rural regions of Canada in ways this will help them prosper in the future.

As we look towards the future, we are steadfast believers in your vision and are willing to invest in the belief that utilities must embrace the "Internet of Things" (IOT) and delivery of rich content into their product offerings. With this said, we wish to be part of this initiative. We believe we bring strong connections to the markets you are seeking to expand into and the resources you are looking to establish plus the expertise needed for success.

We understand that the "Smart Cities Challenge" is intended to improve the lives of Canadians by leveraging the countless benefits that data and connected technologies can offer. We look forward to exploring how the SCC initiative can do the same and possibly more for rural regions of our country.



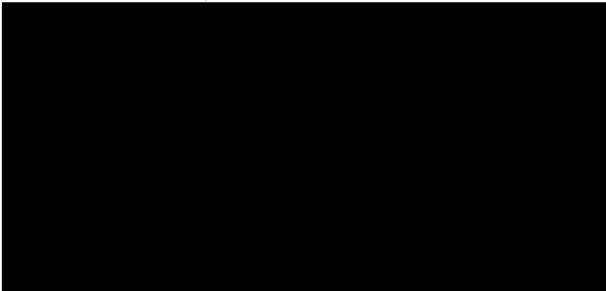
It may be possible to leverage some of the existing internet and cloud-based systems we have already developed and to take advantage of the 'virtual' nature of the internet and its connected technologies.

We are interested in working with you to succeed. Given the formative nature of the proposal, we respect that the nature of our future working relationship will require additional discussion and agreement. Areas of particular interest include joint development of systems and services across the four participating counties, participation and involvement on a Board of Directors to oversee development, and joint development of pilot projects aimed at expanding research capabilities, connectivity or other items of mutual benefit.

We wish to continue our discussions to define how we will work to achieve these mutual aims.

To this end, I am providing this letter on behalf of [REDACTED] in support of the SCC application, and look forward to participating in the full delivery of the initiative to benefit residents throughout the Region.

Regards,



[REDACTED]

Mayor Rodney Shaigec  
Parkland County  
53109A Highway 779  
Parkland County, Alberta  
T7Z 1R1

March 1, 2019

Dear [REDACTED]

**Re: The Four-County Smart City Challenge Proposal**

On behalf of [REDACTED] I am writing to endorse the collective efforts of Parkland, Brazeau, Yellowhead and Lac Ste. Anne Counties to submit a fully developed proposal for Canada's Smart Cities Challenge (SCC). Beginning early in [REDACTED] has worked with Parkland and its partners to create a successful initiative. Our first success was to have Parkland County and its partners be shortlisted and invited to submit a fully developed application. We are pleased to have led the team that has now delivered the full application.

The application has addressed key challenges identified by the SCC process. This will create a unique opportunity by bringing the four counties together to enhance rural connectivity and rural prosperity. We anticipate a positive reception from SCC.

[REDACTED]

Significant work will be required to establish the AGora, initiate the required actions, and create the structural foundation required to succeed. [REDACTED] confirms that it is ready to deliver the PHASE 1 – READINESS stage components of implementation [REDACTED]

We look forward to working with you!

[REDACTED]

CC Ms. Barb Scully  
Smart Cities Coordinator, Parkland County

[REDACTED]

## Cardinal2, Patrick (INFC)

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**From:** LeRoy Brower <LBrower@oipc.ab.ca>  
**Sent:** March 21, 2019 1:57 PM  
**To:** Tremblay, Jenny (INFC)  
**Cc:** Barb Scully; Ellen Sauve; Kim Kreutzer-Work  
**Subject:** Smart Cities Challenge  
**Attachments:** Parkland County PPIA.PDF

Hi Ms. Tremblay,

I have attached a letter related to our review of the Parkland County preliminary privacy impact assessment.

Please feel free to contact me if you have any questions.

LeRoy Brower  
Assistant Information and Privacy Commissioner  
Office of the Information and Privacy Commissioner of Alberta

Phone: 780-422-7617



Office of the Information and  
Privacy Commissioner of Alberta

**VIA Email**

March 21, 2019

Jenny Tremblay  
Director General  
Smart Cities Challenge Directorate

**Re: Parkland County Smart Cities Preliminary PIA**

Dear Ms. Tremblay:

I am writing to outline the results of our engagement with the Parkland County and the review of its Smart Cities project (the project) preliminary privacy impact assessment (PPIA).

Parkland County engaged with our office to discuss possible privacy issues, including a tele-conference call to discuss privacy impact assessment requirements related to the project.

We received the project PPIA on February 5, 2019. Our review of the PPIA focused on the Finalist Guide, Appendix 3 considerations:

- Description of personal information or personal health information to be collected, used or disclosed (CUD);
- Information flow map that outlines each CUD of personal information or health information, with a corresponding legal authority table for each flow;
- Description of who you will collect personal information or health information from to enable the project with assessment of that person's authority to disclose the information;
- Information governance plan;
- Organizational privacy management framework, including related organizational access, correction, privacy and security policies; and
- A plan that outlines the way in which you will consider privacy and security risks throughout the process including to complete a comprehensive PIA.

On February 15, 2019, we wrote to Parkland County to outline the results of our review. We asked that they respond to our questions and comments on or before March 5, 2019, and should the response identify a gap, to provide a plan that would outline how it will be addressed.

Parkland County did not directly respond to our questions and comments. Parkland County instead indicated that they sent their PPIA and our February 15<sup>th</sup> letter to Infrastructure Canada, and also made a commitment to working with our office to address privacy issues through every stage of the project. Given our understanding that Infrastructure Canada has been provided with our review letter, there is no need to specifically outline the PPIA gaps in this letter. That being said, it is important to ensure a clear commitment is made to address the following key gaps should the project proceed:

- No legal authority table was provided, without which, an assessment of the legal authority to collect, use and disclose data in the project is not possible;

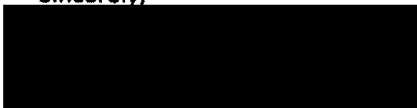
Head Office, 410, 9925-109 Street NW, Edmonton, Alberta, Canada, T5K 2J8 telephone, 780-422-6860 toll-free, 1-888-878-4044  
fax, 780-422-5682 web, [oipc.ab.ca](http://oipc.ab.ca) email, [generalinfo@oipc.ab.ca](mailto:generalinfo@oipc.ab.ca)

- An organizational privacy management framework has not been provided; and
- No plan was provided to outline the way in which privacy and security risks will be considered throughout the project.

The PPIA provides a useful point in time opportunity to understand and address possible privacy implications of the project. We understand that the project will continue to be developed, and therefore it will be important to ensure ongoing privacy risk assessment is undertaken.

Parkland County should be required to continue its engagement with our office to address the key PPIA gaps identified above, and any other risks that may arise as the project proceeds. We will complete a comprehensive assessment of the steps taken to consider and reasonably mitigate privacy risk when the final PIA is submitted.

Sincerely,



LeRoy Brower  
Assistant Commissioner

c: Barb Scully, Connected Communities Program Manager, Parkland County  
Ellen Sauve, FOIP Coordinator, Parkland County  
Kim Kreutzer-Work, Director, Knowledge Management, OIPC



The logo consists of a black rounded rectangle with a white diagonal line cutting from the top right corner to the bottom left corner. The word "AGORA" is written in white, bold, sans-serif capital letters in the upper left portion of the black area.

**AGORA**

# **Smart Cities Challenge**

## **Personal Privacy Impact Assessment**

March 5, 2019

Brazeau County // Lac Ste. Anne County // Parkland County // Yellowhead County



Dear Infrastructure Canada,

We have created our first draft of the requested PIA and submitted it to the office of Leroy Brower, Assistant Information and Privacy Commissioner, at the Office of the Information and Privacy Commissioner of Alberta. Please find attached our PIA as well as the Commissioners feedback.

If awarded the Smart Cities Challenge prize we have already been in contact with Cenera (<https://cenera.ca/>) to discuss completing the final PIA using our first draft and the feedback from the Commissioner's office. We are cognizant that as the project develops there will be additional privacy developments that will need to be addressed. We are committed to working with our Provincial Privacy Commissioners office through every stage of the project to assure we are meeting all standards and expectations.



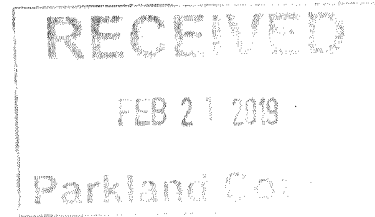
Barb Scully | Connected Communities Program Manager | Parkland County | 53109A HWY 779, Parkland County, Alberta T7Z 1R1  
Office: 780-968-8888 ext. [REDACTED] Cell: [REDACTED]  
[REDACTED]@parklandcounty.com | [www.parklandcounty.com](http://www.parklandcounty.com)  
One Parkland: Powerfully Connected.  
See how you can grow your community:  
<https://youtu.be/JwFnVyMbQiw>



Office of the Information and  
Privacy Commissioner of Alberta

February 15, 2019

Ms. Barb Scully  
Connected Communities Program Manager  
Smart Parkland  
53109A HWY 779  
Parkland County, AB T7Z 1R1



**Re: Parkland County Smart Cities Preliminary PIA**

Dear Ms. Scully:

I am writing in response to your preliminary privacy impact assessment (PIA) on the Parkland County's Smart Cities project (the project), which our office received on February 5, 2018. Congratulations for being a finalist in this important competition.

We have completed our initial review of the preliminary PIA. Our comments focus on the Finalist Guide, Appendix 3 requirements, which are:

- Description of personal information or personal health information to be collected, used or disclosed (CUD);
- Information flow map that outlines each CUD of personal information or health information, with a corresponding legal authority table for each flow;
- Description of who you will collect personal information or health information from to enable the project with assessment of that person's authority to disclose the information;
- Information governance plan;
- Organizational privacy management framework, including related organizational access, correction, privacy and security policies; and
- A plan that outlines the way in which you will consider privacy and security risks throughout the process including to complete a comprehensive PIA.

**Comments**

- The PIA provides an information flow map, but no corresponding legal authority table for each flow was provided. Please provide a legal authority table.
- An organizational privacy management framework is required, but has not been provided. Please provide our office with an organizational privacy management framework, including related organizational access, correction, privacy and security policies. I've provided a link below to organizational privacy management framework guidance issued by our office.
  - [https://www.oipc.ab.ca/media/383671/guide\\_getting\\_accountability\\_with\\_privacy\\_program\\_apr2012.pdf](https://www.oipc.ab.ca/media/383671/guide_getting_accountability_with_privacy_program_apr2012.pdf)

Head Office, 410, 9925-109 Street NW, Edmonton, Alberta, Canada, T5K 2J8 telephone, 780-422-6860 toll-free, 1-888-878-4044  
fax, 780-422-5682 web, [oipc.ab.ca](http://oipc.ab.ca) email, [generalinfo@oipc.ab.ca](mailto:generalinfo@oipc.ab.ca)

- The Finalist Guide requires a plan that outlines the way in which you will consider privacy and security risks throughout the project, including completing a comprehensive PIA. Please provide a plan that outlines the steps that will be taken as the project proceeds to ensure proper consideration of privacy risks, which eventually will conclude with completion and submission of a final PIA.
- Page 4 of the PIA references the City of Red Deer's Privacy Statement and Conditions of Use Policy and Strathcona County's Privacy and Security Statement. Please explain the reference and possible use of other municipality's policies.
- The list of personal information to be collected includes age, gender and marital status. A general statement is made that all information being collected is necessary to operate the open date portal and for research and development, but no further explanation is provided. Please clarify why each of these data elements must be collected in order to operate the program, and explain how collection is limited to only what is necessary in order to meet the purpose.
- Is the personal information to be collected linked or matched with any other information? If so, please outline this information and the steps taken to link and match it.
- There is indication in the PIA that data input is what "users opt to supply". Please elaborate on a user's ability to control what data they choose to make available. For example, can a user choose to not provide their marital status?
- Page 11 says that one of the projects mandates is to attract research and development. We note that the notice statement provided does not adequately inform a user that the information they provide will be used for this purpose. Please provide our office with a modified notice statement.
- Part 8 of the PIA addresses possible disclosures and says the information collected will only be disclosed for the purpose of research. We do not think this is accurate. For example, if Parkland County received a subpoena for information held within the portal, or received an access request for information held within the portal, it seems unlikely the information would not be processed and considered for disclosure. Please review the possible disclosures that may be necessary and revise this section, as well as consider necessary revisions to the notice statement.
- The information flow provided includes presenting a user with a research policy that they can agree to or not agree to. We are pleased to see user control included. However, we note that user control occurs after personal information has already been collected. Providing this notice and user control prior to collection would enhance privacy and reduce risk. Please provide rationale to support including user control at this stage of the information flow.
- As noted previously, a mandate of the project is research. The PIA indicates that research will comply with section 42 of the FOIP Act. Has the head of Parkland County approved conditions relating to security and confidentiality and the other factors listed in section 42(c)? If so, please provide them to our office.

These are all of our questions or comments at this time. In summary, along with some areas of clarification, there are two key issues that we discovered in our review that we feel are important to address:

1. An organizational privacy management framework and related organizational policies is required, but has not been provided; and
2. It appears at this point that privacy and security assessment for the web-based tool/portal has not been completed and there is therefore no related privacy risk assessment and mitigating safeguards that have been outlined. This makes the plan that outlines the way in which you will consider privacy and security risks throughout the project, including completing a comprehensive PIA, a very critical component of our review, and ultimately, success in ensuring privacy issues are reasonably addressed. Please provide our office with a detailed plan that outlines the steps, and a timeframe for each step, in which privacy and security risks related to this project will be considered.

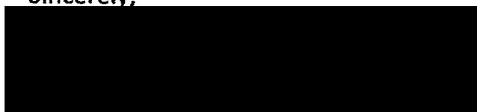
We request that you provide us with responses to our questions and comments on or before March 5<sup>th</sup>, and a copy of your final preliminary PIA that is submitted to Infrastructure Canada. Should your response identify a gap, please provide a plan that outlines how that gap will be addressed.

We will be providing Infrastructure Canada with comments based on the information you provide to us on or before March 5<sup>th</sup>.

We will complete a further comprehensive review of the final PIA should this project proceed.

Please contact Ms. Kreutzer-Work or me if you have any questions.

Sincerely,



LeRoy Brower  
Assistant Commissioner

c: Ellen Sauve, Records Management Supervisor/FOIP Coordinator  
Kim Kreutzer-Work, Director, Knowledge Management, OIPC



**SMART CITIES CHALLENGE, VIRTUAL AG LAB  
Preliminary Privacy Impact Assessment (PIIA)**

Submitted: February 5, 2019

**Privacy Impact Assessment (PIA) Questionnaire to assess the protection of privacy in  
accordance with Part 2 of the *Freedom of Information and Protection of Privacy Act* (FOIP Act)  
PIA: Smart Cities Challenge – Virtual Ag. Lab.**

**Part 1: Basic Information**

1.1 Provide Program Area Identifiers.

Public Body	Parkland County
Division (if applicable)	Strategic Initiative Division
Dept. or Service Area	Smart Parkland
PIA Title	Smart Cities Challenge - Virtual Ag Lab
PIA File Number	PIA 2019-01 SP

1.2 Provide Program Area Contact Information.

*This should be the name of the individual able to respond to questions regarding the PIA or the contact information of the position able to respond in future.*

Name	Barb Scully		
Title	Connected Communities Program Manager		
Dept. or Service Area	Smart Parkland		
E-Mail	[REDACTED]	@parklandcounty.com	Phone 780-968-8888 ext [REDACTED]

1.3 Description of the Initiative/Program/Application/System ("Initiative") under assessment:

In April 2018 Parkland County submitted an application for the Smart Cities Challenge in partnership with the other three municipalities. In June 2018 it was announced that our application had made the finalist round and the award was \$250,000 to create a more comprehensive plan. The initial application was asked to provide a challenge statement for your community and ours is as follows:

**"Our agricultural community will revitalize and grow through the connection of people to the land and food while attracting citizens to share in its prosperous, innovative and resilient way of life."**

In fall 2018 five RFP's were created and sent by invitation to 3 vendors per RFP. The areas that are being looked for are in alignment with the response to Question 9 on the original application.

- **The design specifications of the AG Innovation Living Lab – We will work with external experts, and volunteer advisors to design the Living Lab and specify how it will be operated. Particular attention will be paid to specifying the Smart Community benefits that will be achieved by users of the Living Lab once it is functional. Program elements and technology support systems will be specified and, to some extent, prototype testing will be undertaken – both to determine what is feasible as well as to begin to build internal capacity to support the Living Lab into ongoing implementation. We will also conduct a research program to understand the emerging state of the art technologies that are available to support this concept. Anticipated budget \$50,000**
- **A community developed Strategic Plan – We will engage Integral Strategy Network to deliver their proprietary collaborative Integral Strategy Roadmap process with us and our community stakeholders. This will deliver a complete action / implementation plan and will**

create sustainable community capacity to carry this work forward into future years.  
Anticipated budget \$100,000

- A series of 7 Smart Community events – We will plan and host 4 events to enhance community engagement efforts that we have accomplished to date. These will further spread the knowledge of what it means to be a Smart Community and further engage residents and businesses to continue to seek their input into the above noted Strategy and Living Lab specifications. It will continue to build widespread understanding of what will be possible as our Smart Community plans are implemented. Anticipated budget \$40,000
- An infrastructure capacity / capability assessment – we will sub-contract external experts to undertake a complete review and gap assessment of the installed infrastructure in all participating Counties. This also will include a phased approach to resolve the gaps and make recommendations regarding core technology choices to deliver equitable internet/cellular access for all residents and businesses in the region. Anticipated budget \$60,000

All of these activities will provide the background, community collaboration and plans necessary to develop our final proposal for submission for the overall Smart Community prize. We have a 1 in 5 chance of winning \$10 million dollars to see the project through over 2-5 years.

The Strategic Plan was divided into two RFP's. A Sustainability Plan for the project and the coordinating and writing of the Final Application.

The awarding of the RFP's will create a team to coordinate, gather data, complete community and stakeholder engagement and build a final winning submission.

The submission is due March 5, 2019 and must include (as per the Infrastructure Canada Finalist Guide):

#### 1.4 Purpose/Objective of the Initiative:

The goal of the Parkland County, Lac Ste. Anne, Yellowhead and Brazeau County initiative is based on our Challenge Statement:

*"Our agricultural community will revitalize and grow through the connection of people to the land and food while attracting citizens to share in its prosperous, innovative and resilient way of life."*

Our proposed initiative is a web based tool that houses a variety of applications under one umbrella to streamline the access to tools and services that deliver a solutions driven application. It will give assistance in the areas of succession planning, food security, rural safety, local economy and research and development to name a few. It will help forge connections locally for those involved in the agricultural sector as well as drive global connections to increase community economic development and innovation.



***Communities lead the way***

***The Smart Cities Challenge is a competition open to all municipalities, local or regional governments, and Indigenous communities (First Nations, Inuit, and Métis) across Canada.***

***This Challenge will empower communities across the country to address local issues their residents face through new partnerships, using a smart cities approach.***

***A smart cities approach means achieving meaningful outcomes for residents through the use of data and connected technology. This approach can be adopted by any community, big or small.***

***Finalists will receive support to develop their smart cities proposals. Winning communities will be awarded with prize money to help implement them.***

***Any attachment to the PIA should be included as Appendices. Please include a List of Appendices.***

***Appendices:***

- 1. Infrastructure Canada Original Proposal (Final application to be completed March 5<sup>th</sup>)**
- 2. Hyperlink to City of Red Deer's Privacy Statement and Conditions of Use Policy and Strathcona County's Privacy and Security Statement**
- 3. Information Sharing Agreement Templates**

**1.5 Does the Initiative collect, use or disclose personal information as defined in section 1(n) of the FOIP Act<sup>1</sup>? YES**

***For example, are you implementing a collection of personal information that was not previously done? Are you changing the way you collect personal information in an existing Initiative in any way? Are you expanding the scope of the Initiative so more people may be affected? Are other agencies participating in the exchange of personal information under this Initiative? These are the types of questions to consider.***

<b>If the answer is Yes, or if you are uncertain, continue this assessment.</b>
<b>If the answer is No, there is nothing further required; go to <i>Signatures</i> under Part 12 of this assessment.</b>

**1.6 List of personal information data elements being collected, used or disclosed under this Initiative.**

**The list of elements being collected, used or disclosed are:**

- the individual's name, email, home or business address or home or business telephone number.**
- the individual's age, gender, marital status or family status.**

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<sup>1</sup> Under section 1(n) of the FOIP Act, personal information is defined as "recorded information about an identifiable individual".

-the individual's personal views or opinions.

The information collected will only be used to assist the Ag Lab to function as an open data portal for research and development. The collection of open data also supports the site in its goals to offer the best supports for users; residents, producers, nonprofits, value added agriculture sector, post-secondary and the research and development industry. Without the collection of information we are unable to collect enough data to understand user needs. A vital component of this project is to create a user driven virtual toolbox with a focus on the agriculture sector. In order to maintain the integrity if built, we must have the data and input that the users opt to supply. This information will help form the flow of information and services based on user needs and trends. The information and opportunity of open data will also drive solutions, innovation and educational opportunities for the users

1.7 Has any previous personal information privacy or security assessment been done for this Initiative or a related initiative?

*Please list for cross-reference any related PIAs, Security Threat and Risk Assessments (STRAs) or other assessments previously completed or concurrently being undertaken.*

*Remember to include any attachments referenced in the PIA as Appendices.*

NO

**To date there have been no prior PIA's completed or performed on the potential Virtual Ag Lab.**

1.8 Provide a flowchart illustrating the information flows, i.e. the collection, storage movement, use and disclosure of all personal information.

*This can be a block and arrow diagram. Make it as simple and as clear as possible.*

*The purpose of the flowchart is simply to identify where, how and to whom personal information is moving under this Initiative in order to aid identification of legislative authorities at each point of exchange.*

*Please include below or as an attachment. **Included with appendices***

## **Part 2: Collection (section 33)**

Is this Initiative collecting personal information? YES

**If the answer is Yes, continue under this part of the assessment.**

**If the answer is No, go to Use under Part 5 of this assessment.**

*There are three authorities for a public body to collect personal information under the FOIP Act. Please think about all personal information data elements collected. The collection of some personal information data elements may have a different authority*

than other personal information data elements and we must identify every authority that applies. Check all that apply.

☐ The collection of the personal information is expressly authorized by an enactment of Alberta or Canada. [s. 33(a)] If yes, provide the legislative authority: [Name and section of Act]

☐ The collection of the personal information is for law enforcement. [s. 33(b)]

Note: law enforcement is defined under section 1(h) of the FOIP Act. In order to apply this authority, please review this definition and Bulletin No. 7: Law Enforcement found at: <http://www.servicealberta.gov.ab.ca/foip/resources/bulletins.cfm>

☒ The collection of the personal information is directly related to and necessary for an operating program or activity of the public body. [s. 33(c)]

**Without the collection of the personal information; such as opinions, marital status and contact information, the Ag Lab cannot function as an open data portal for research and development. The collection of open data also supports the site in its goals to offer the best supports for users; residents, producers, nonprofits, value added agriculture sector, post-secondary and the research and development industry. Without the collection of information we are unable to collect enough data to understand user needs. A vital component of this project is to create a user driven virtual toolbox with a focus on the agriculture sector. In order to maintain the integrity if built, we must have the data and input that the users opt to supply. This information will help form the flow of information and services based on user needs and trends. The information and opportunity of open data will also drive solutions, innovation and educational opportunities for the users in areas such as collaborative projects with producers and post-secondary partners to work on real time solutions for the agriculture industry, matching research and development with value added agriculture businesses to create economic opportunity in the region and peer to peer mentorship leading to succession planning opportunities.**

If you have checked any of these three authorities above for collection, you have identified an authority under the FOIP Act that allows the Initiative to collect the personal information. Please continue the assessment.

If the answer is No to all three of these authorities above, you have not identified an authority under the FOIP Act that allows the Initiative to collect the personal information. Is the Initiative collecting personal information?

Please contact your FOIP Coordinator for assistance (ext. 3229).

### Part 3: Direct/Indirect Collection (section 34)

**Privacy Impact Assessment (PIA) Questionnaire to assess the protection of privacy in accordance with Part 2 of the *Freedom of Information and Protection of Privacy Act* (FOIP Act)**  
**PIA: Smart Cities Challenge – Virtual Ag. Lab.**

*Personal information must be collected directly from the individual unless an exception to this requirement applies.*

Is the Initiative only collecting personal information directly from the individual the information is about? YES

**If the answer is Yes, go to *Notification* under Part 4 of this assessment.**

**If the answer is No and you are planning to collect any personal information indirectly, continue under this part of the assessment.**

*Please indicate whether any of the following statements are true. Please ensure indirect personal information flows are indicated on the preceding flowchart and be prepared to provide additional supporting information. Check all that apply.*

- ☐ The individual authorized (consented to) another method of collection.  
[s.34(1)(a)(i)] *If yes, please explain how authorization is obtained:*
- ☐ Another Act or regulation authorizes the indirect collection. [s. 34(1)(a)(ii)] *If yes, provide the legislative authority: [Name and section of Act]*
- ☐ The Information and Privacy Commissioner has authorized the indirect collection.  
[s. 34(1)(a)(iii) with s. 53(1)(h)] *If yes, please provide any details in relation to the Commissioner's authorization such as expiry, conditions, etc:*
- ☐ The information is disclosed to the public body under the FOIP Act. [s. 34(1)(b)] *If yes, please provide the section of FOIP Act under which the personal information is disclosed to the public body:*
- ☐ The information is collected in a health or safety emergency and direct collection is not possible or is unsafe. [s. 34(1)(c)]
- ☐ The collection is from a designated emergency contact or contact for other specified circumstances. [s. 34(1)(d)]
- ☐ The indirect collection is for the purpose of determining suitability for an honor or award. [s. 34(1)(e)]
- ☐ The collection is from published or public sources for the purpose of fund raising. [s. 34(1)(f)]
- ☐ The indirect collection is for the purpose of law enforcement. [s. 34(1)(g)]

*Note: law enforcement is defined under section 1(h) of the FOIP Act. In order to apply this authority, please review this definition and Bulletin No. 7: Law Enforcement found at: <http://www.servicealberta.gov.ab.ca/foip/resources/bulletins.cfm>*

- ☐ The indirect collection is for the purpose of collecting a debt or fine owed to the public body. [s. 34(1)(h)]
- ☐ The indirect collection concerns the history, release or supervision of an individual under the control or supervision of a correctional authority. [s. 34(1)(i)]
- ☐ The indirect collection is for use in the provision of legal services to the Government of Alberta or a public body. [s. 34(1)(j)]
- ☐ The indirect collection is necessary to determine eligibility for participation in a program or to receive a benefit, product or service from the public body and occurs in the course or processing an application. [s. 34(1)(k)(i)]
- ☐ The indirect collection is necessary to verify eligibility for participation in a program or current receipt of a benefit, product or service from the public body and the information was collected for that purpose. [s. 34(1)(k)(ii)]
- ☐ The indirect collection is for the purpose of informing the Public Trustee or a Public Guardian about clients or potential clients. [s. 34(1)(l)]
- ☐ The indirect collection is for the purpose of enforcing a maintenance order under the *Maintenance Enforcement Act*. [s. 34(1)(m)]
- ☐ The indirect collection is for the purpose of managing or administering personnel of the public body. [s. 34(1)(n)]
- ☐ The indirect collection is for the purpose of assisting in researching or validating the claims, disputes or grievances of aboriginal people. [s. 34(1)(o)]

**If you have checked one of the preceding authorities for indirect collection, you have identified an authority under the FOIP Act to collect the personal information from another source rather than directly from the individual(s) themselves.**

**Notification is not required: skip to Use under Part 5 of this assessment.**

**If none of these indirect collection authorities is selected, you must collect the personal information directly from the individual the information is about or identify options that meet one or more of these authorities. Please contact your FOIP Coordinator for assistance (ext. 3229)**

#### **Part 4: Notification (section 34)**

*Notification is required when personal information is collected directly from an individual. This part of the assessment is completed when you are collecting information directly from individuals. Notification contains **three** elements:*

- i) Purpose of collection – This must be specific enough so a reasonable person can understand the purpose for which their personal information is collected including how it may be used and/or disclosed.
- ii) Specific legal authority for collection – This should include any enabling legislation and/or the applicable FOIP Act authority.
- iii) Job Title, business address and business telephone number of an officer or employee of the public body who can answer questions about the collection.

Does the notification provided to the individual at the time personal information is collected under this Initiative include the three elements listed above? [s. 34(2)] Yes

**A disclaimer sentence below will be included at the time of collection and present at the beginning of any web area that is asking participants to opt in to information sharing.**

*The personal information you provide will be used for the purpose of compiling and analyzing the data and linking the information to a geospatial map. This information is collected in accordance with Section 33 (c) of the Freedom of Information and Protection of Privacy (FOIP) Act. We collect only what is necessary for the operation of the open data portal. The information is used only for the purpose it was collected or for a consistent purpose. Further, we keep the information only for the length of time necessary to fulfill the purpose for which it was collected.*

*If you have any questions about the collection and use of this information, please contact the FOIP Coordinator at Parkland County, 53109A HWY 779, Parkland County, Alberta T7Z 1R1 (780-968-3229) or email [foip@parklandcounty.com](mailto:foip@parklandcounty.com)*

**NOTE:** The current uses being examined are outlined in section 1.4 and section 2.0 of this document. Upon being awarded the Infrastructure Canada prize we would be first solidifying our plan of content and information flow. At that time a full privacy impact assessment will be completed to ensure it aligns with the FOIP Act. At the time of the creation of this assessment we have listed the current uses of information.

#### **Part 5: Use (section 39)**

Is the Initiative using personal information? YES

**If the answer is Yes, continue under this part of the assessment.**

**If the answer is No, go to *Disclosure* beginning at Part 6 of this assessment.**

*There are three use authorities for personal information under the FOIP Act. Please think about all personal information data elements involved; the use of some personal*

*information data elements may have a different authority than other personal information data elements. Check all that apply.*

☒ The personal information is being used under this Initiative according to the original purpose for which it was collected or compiled or for a use that is consistent with that original purpose of collection. [s. 39(1)(a)]

If the above is selected and the use includes consistent purposes, please confirm the consistent use meets both of the following:

☒ The consistent use has a reasonable and direct connection to the purpose for which the personal information was originally collected or compiled.

**AND**

☒ The consistent use is necessary for performing the statutory duties of or operating a legally authorized program of the public body using the personal information.

*Provide details/explanation: As stated in the description of the project the collection of personal information from our residents will support our goals in creating a user driven platform to provide the best information, resources and opportunities to the agricultural users.*

☒ The individual has identified the information and consented to the use. [s. 39(1)(b)]

**We will create a privacy statement and conditions of use policy for the open data portal. See Appendices for examples.**

☒ The use is for a purpose for which the information was disclosed to the public body under section 40, 42 or 43 of the FOIP Act. [s. 39(1)(c)]

*If the above is selected and another public body is disclosing personal information to this Initiative under a FOIP Act disclosure authority (sections 40, 42 or 43), this is the corresponding authority for the Initiative's use of the information.*

*If this Initiative receives and uses personal information disclosed from another public body and you are uncertain it is being disclosed under the FOIP Act, you may wish to return to this question after reviewing the authorities in **Disclosure** beginning at Part 6 of this assessment and in consultation with the other public body.*

**If you have checked one of the preceding authorities for use, you have identified an authority under the FOIP Act that allows the Initiative to use the personal information. Please continue the assessment.**

**If none of these use authorities is selected, you have not identified an authority under the FOIP Act that allows the Initiative to use the personal information. Please contact your FOIP Coordinator for assistance (ext. 3229).**

**Part 6: Disclosure for Research or Statistical Purposes (section 42)**

Has a researcher requested records that contain personal information as part of this initiative? YES

If the answer is YES, then all the conditions under section 42 of the FOIP Act must be met including signing an agreement to comply with the approved conditions.

Please contact your FOIP Coordinator for assistance (ext. 3229).

If the answer is YES, and this is the only disclosure, go to *Accuracy and Retention* under Part 9 of this assessment.

If the answer is YES, and there may be additional disclosure authorities, or if the answer is No, go to *Disclosure of Information in Archives* under Part 7 of this assessment.

One of the projects mandates is to attract research and development both to the virtual space as well as the physical region. Upon the development of the project, if awarded, disclosure and permissions policies will be formed in compliance with the FOIP act and under the direction of the FOIP Coordinator. It will be created to meet all conditions under section 42 of the FOIP act. Any information collected will be on an "opt in" bases from participants and we will collect only the minimal information needed to achieve our purpose.

**Part 7: Disclosure of Information in Archives (section 43)**

*The Provincial Archives of Alberta and the archives of a public body may disclose information as authorized by section 43 of the FOIP Act.*

Is the disclosure of personal or other information held in an archives part of this Initiative? NO

If the answer is YES, continue under this part of the assessment.

If the answer is No, go to *Disclosure of Personal Information* under Part 8 of this assessment.

☐ Has the record been in existence for 25 years or more and the disclosure would not be an unreasonable invasion of privacy under section 17 of the FOIP Act? [s. 43(1)(a)(i)(A) with s. 17]

☐ Has the record been in existence for 25 years or more and the disclosure is for research or statistical purposes in accordance with section 42 of the FOIP Act? [s. 43(1)(a)(i)(B) with s. 42]

☐ Has the record been inexistence for 75 years or more? [s. 43(1)(a)(ii)]



☐ Has the record been in existence for 25 years or more and the disclosure would not be harmful to the business interests of a third party under section 16 of the FOIP Act? [s. 43(1)(b)(i) with s. 16]

☐ Has the record been in existence for 25 years or more and the disclosure would not be harmful to a law enforcement matter within the meaning of section 20 of the FOIP Act? [s. 43(1)(b)(ii) with s. 20]

☐ Has the record been in existence for 25 years or more and the information is not subject to any type of legal privilege under section 27 of the FOIP Act? [s. 43(1)(b)(iii) with s. 27]

**If you have checked one or more of these authorities for Disclosure of Information in Archives and this is the only disclosure is archival, go to *Accuracy and Retention* under Part 9 of this assessment.**

**If there are other disclosures, or if no authorities listed above apply, go to *Disclosure of Personal Information* under Part 8 of this assessment.**

#### **Part 8: Disclosure of Personal Information (section 40)**

Is the Initiative disclosing personal information? YES

**Personal information will be disclosed only for the purpose of research under section 42 and would include an information sharing agreement where applicable.**

**See appendices for template. All activity will align and meet the requirements of section 40 of the FOIP act.**

**If the answer is YES, continue under this part of the assessment.**

**If the answer is No, go to *Accuracy and Retention* under Part 9 of this assessment.**

*There are many authorities that allow for a public body to disclose personal information under the FOIP Act. Please think about all personal information data elements disclosed and all instances of disclosure; the disclosure of some personal information data elements may have a different authority than other personal information data elements. Additionally, a disclosure to one public body or organization may have a different authority than a disclosure to another one.*

*Section 40(4) requires that a public body may disclose personal information only to the extent necessary to enable the public body to the carry out the purposes (described in the disclosure provisions that follow) in a reasonable manner.*

*Check only those types of disclosure that are specifically intended to occur under the Initiative under assessment.*

- ☒ The disclosure is in accordance with a FOIP Act access request. [s. 40(1)(a)]
- ☒ The disclosure is not an unreasonable invasion of a third party's privacy under s. 17. [s. 40(1)(b) with s. 17]

*Note: Section 17(2) lists when a disclosure is not an unreasonable invasion of privacy under formal access. If disclosure under this Initiative is listed in section 17(2), then this disclosure provision may apply.*

- ☒ The personal information is being disclosed under this Initiative according to the original purpose for which it was collected or compiled or for a use that is consistent with that original purpose of collection. [s. 40(1)(c)]

If the above is selected and the use includes consistent purposes, please confirm the consistent use meets both of the following:

- ☒ The consistent use has a reasonable and direct connection to the purpose for which the personal information was originally collected or compiled.

**AND**

- ☒ The consistent use is necessary for performing the statutory duties of or operating a legally authorized program of the public body using the personal information.

***Provide details/explanation: The initiative is undertaken by the municipalities to serve our residents. Municipalities operate under the MGA and FOIP***

- ☒ The individual has identified the information and consented to the disclosure in the prescribed manner. [s. 40(1)(d)]

**We will create a privacy statement and conditions of use policy for the open data portal including an opt-out option for certain personal contact information. See Appendices for examples**

- ☐ The disclosure is done in order to comply with an enactment of Alberta or Canada, or with a treaty, arrangement or agreement made under an enactment of Alberta or Canada. [s. 40(1)(e)]
- ☐ The disclosure is for any purpose where an enactment of Alberta or Canada authorizes or requires the disclosure. [s. 40(1)(f)]
- ☐ The disclosure is to comply with a subpoena, warrant or order made by a court, person or body having jurisdiction in Alberta to compel the production of information or with a rule of court binding in Alberta that relates to the production of information. [s. 40(1)(g)]

- ☐ The disclosure is to an officer or employee of the public body or to a member of the Executive Council, and is necessary for the performance of the duties of that officer, employee or member. [s. 40(1)(h)]
- ☐ The disclosure is to an officer or employee of a public body or to a member of Executive Council, if the disclosure is necessary for the delivery of a common or integrated program or service and the performance of the duties of the officer or employee or member to whom the information is disclosed. [s. 40(1)(i)]
- ☐ The disclosure is for the purpose of enforcing a legal right that the Government of Alberta or a public body has against any person. [s. 40(1)(j)]
- ☐ The disclosure is for the purpose of:
- i) Collecting a fine or debt owing by an individual to the Government of Alberta or to a public body, or to an assignee of either of them, [s. 40(1)(k)(i)] or
  - ii) Making a payment owing by the Government of Alberta or a public body to an individual. [s. 40(1)(k)(ii)]
- ☐ The disclosure is for the purpose of determining or verifying an individual's suitability or eligibility for a program or benefit. [s. 40(1)(l)]
- ☐ The disclosure is to the Auditor General or any other prescribed person or body for audit purposes. [s. 40(1)(m)]
- ☐ The disclosure is to a member of the Legislative Assembly who has been requested by the individual the information is about to assist is resolving a problem. [s. 40(1)(n)]
- ☐ The disclosure is to a representative of a bargaining agent who has been authorized in writing by the employee the information is about to make an inquiry. [s. 40(1)(o)]
- ☐ The disclosure is to the Provincial Archives of Alberta or to the archives of a public body for permanent preservation. [s. 40(1)(p)]
- ☐ The disclosure is to a public body or a law enforcement agency in Canada to assist in an investigation:
- i) Undertaken with a view to a law enforcement proceeding, [s. 40(1)(q)(i)] or
  - ii) From which a law enforcement proceeding is likely to result. [s. 40(1)(q)(ii)]
- ☐ The disclosure is from a law enforcement agency and the information is disclosed:
- i) To another law enforcement agency in Canada, [s. 40(1)(r)(i)] or
  - ii) To a law enforcement agency in another country under an arrangement, written agreement, treaty or legislative authority. [s. 40(1)(r)(ii)]

Privacy Impact Assessment (PIA) Questionnaire to assess the protection of privacy in  
accordance with Part 2 of the *Freedom of Information and Protection of Privacy Act* (FOIP Act)  
PIA: Smart Cities Challenge – Virtual Ag. Lab.

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*Note: law enforcement is defined under section 1(h) of the FOIP Act. In order to apply this authority, please review this definition and Bulletin No. 7: Law Enforcement found at: <http://www.servicealberta.gov.ab.ca/foip/resources/bulletins.cfm>*

- ☐ The disclosure is so that the spouse or adult interdependent partner, relative or friend of an injured, ill or deceased individual may be contacted. [s. 40(1)(s)]
- ☒ The disclosure is in accordance with s. 42 (Disclosure for Research or Statistical Purposes) or 43 (Disclosure of Information in Archives). [s. 40(1)(t) with s. 42 or s. 43]  
*If Yes, see also **Disclosure for Research or Statistical Purposes** and/or **Disclosure of Information in Archives** under Parts 6 and 7 of this assessment.*
- ☐ The disclosure is to an expert for the purposes of s. 18(2). [s. 40(1)(u) with s. 18(2)]  
*Section 18(2) applies under formal access when disclosure may be harmful to individual or public safety and the personal information of the applicant must be disclosed to an expert in order for their assessment to determine if section 18 applies.*
- ☐ The disclosure is for use in a proceeding before a court or quasi-judicial body to which the Government of Alberta or a public body is a party. [s. 40(1)(v)]
- ☐ The disclosure is by the Minister of Justice and Solicitor General or an agent or lawyer of the Minister of Justice and Solicitor General to a place of lawful detention. [s. 40(1)(w)]
- ☐ The disclosure is for the purpose of managing or administering personnel of the Government of Alberta or the public body. [s. 40(1)(x)]
- ☐ The disclosure is to the Director or Maintenance Enforcement for the purpose of enforcing a maintenance order under the *Maintenance Enforcement Act*. [s. 40(1)(y)]
- ☐ The disclosure is to an officer of the Legislature, if the information is necessary for the performance of the duties of that officer. [s. 40(1)(z)]
- ☐ The disclosure is for the purpose of supervising an individual under the control or supervision of a correctional authority. [s. 40(1)(aa)]
- ☐ The Initiative is disclosing personal information that is available to the public. [s. 40(1)(bb)]
- ☐ The Initiative is disclosing personal information that is routinely disclosed in a business or professional context, i.e. limited to an individual's name and business contact information, including business title, address, telephone number, facsimile number and e-mail address and does not reveal other personal information about the individual or personal information about another individual. [s. 40(1)(bb.1)]

- ☐ The disclosure is to the surviving spouse or adult interdependent partner of a relative of a deceased individual if, in the opinion of the head of the public body, the disclosure is not an unreasonable invasion of the deceased's personal privacy. [s. 40(1)(cc)]
- ☐ The disclosure is to a lawyer or student-at-law acting for an inmate under the control or supervision of a correctional authority. [s. 40(1)(dd)]
- ☐ The head of the public body believed, on reasonable grounds, that the disclosure will avert or minimize a risk of harm to the health or safety of a minor. [s. 40(1)(ee)(i)]
- ☐ The head of the public body believed, on reasonable grounds, that the disclosure will avert or minimize an imminent danger to the health or safety of any person. [s. 40(1)(ee)(ii)]
- ☐ The disclosure is to the Administrator of the *Motor Vehicle Accident Claims Act* or to an agent or lawyer of the Administrator for the purpose of dealing with claims under that Act. [s. 40(1)(ff)]
- ☐ The disclosure is to a law enforcement agency, an organization providing services to a minor, another public body or any prescribed person or body if the information is in respect of a minor or a parent or guardian of a minor and the head of the public body believes, on reasonable grounds, that the disclosure is in the best interests of that minor. [s. 40(1)(gg)]

*Additional provisions related to post-secondary educational bodies are in place. If this PIA is being completed by a post-secondary institute, please check with your FOP Office.*

**If you checked at least one of the preceding authorities for disclosure, you have identified an authority under the FOIP Act that allows the Initiative to disclose the personal information. Please continue the assessment.**

**If the answer is No to all of these disclosure authorities above, you have not identified an authority under the FOIP Act that allows the Initiative to disclose the personal information. Please contact your FOIP Coordinator for assistance (ext. 3229).**

#### **Part 9: Accuracy and Retention (section 35)**

*If an individual's personal information is used by a public body to make a decision that directly affects the individual, the public body must make every reasonable effort to ensure that the information is accurate and complete.*

*An individual has a right to access their personal information for a period of one year after it is used to make a decision that directly affects them. A shorter retention*

*period may be agreed upon by the individual, the public body and any other body that approves retention schedules. Or there may be longer retention periods required due to business and legal requirements.*

*It is important that you ensure an appropriate records retention and disposition schedule is applied. Alberta government records cannot be destroyed or archived without a records retention and disposition schedule in place. This increases risk in storing records longer than may be required and potentially increases the volume of responsive records under a formal access request.*

Do you have an approved records retention and disposition schedule for the records subject to this initiative? [s. 35(a)] *If yes, please provide the records retention and disposition schedule number or name: you may contact Information Management Services for assistance in determining retention. Ext. 8308 or 3229)*

**1. STRATEGIC MANAGEMENT – GRANTS AND SPONSORSHIPS ~ Grant Applications (by County): Smart Cities Challenge – Virtual Agriculture Lab**

Records relating to the County's application, approval and assignment of grant program applications either accepted, rejected or refused (successful or unsuccessful) by outside organizations such as Federal or Provincial Governments.

**Note:** Grants are regulated under Alberta Regulations 123/2000 Municipal Affairs Grants

**CLOSURE CRITERIA and RETENTION:**

After application approved or rejected, retain for 11 years and destroy (this is based on the Limitations Act)

**2. INFORMATION MANAGEMENT – AGREEMENTS -**

Confidentiality agreements and related records between the County and external bodies (e.g. data matching and data linking) dealing with issues such as use of data and/or information.

Also includes records relating to research and/or statistical agreements.

**Note:** Section 42 of the FOIP Act says the County may disclose personal information for research purposes only if an agreement to comply with all approved conditions, the Act, and any applicable policies/procedures are signed by the person to whom the information is disclosed.

Section 9 of the FOIP Regulation sets out the conditions for an Agreement for Disclosure.

**MRD - Legislative and Administrative Services Departments**

**CLOSURE CRITERIA - Destroy 11 years after all conditions relating to the agreement have been satisfied fully**

**If the answer is No, or if you are uncertain, please contact the individual(s) responsible for records management in your public body.**

**This is not a PIA requirement but another business consideration.**

Are there procedures in place to enable an individual to request/review a copy of their own personal information? [s. 35(b)]

**If the answer is No, or if you are uncertain, please contact your FOIP Coordinator for assistance (ext. 3229).**

#### **Part 10: Correction of Personal Information (section 36)**

*If an individual believes there is an error or omission in their personal information, they have the right to request correction.*

*The public body must not correct an opinion such as professional or expert opinions.*

*Annotation or Linking: if the correction is not made or cannot be made, the request for correction must be annotated or linked to the record.*

*Note: **Annotate** means written on a record close to the information. **Link** means attach to, join or connect to the original record.*

*Check all that apply.*

☐ There are procedures in place to correct, annotate or link an individual's personal information if requested, including what source was used to update the file. [ss. 36(1), (2), (3) and (6)]

☐ If personal information is corrected, are there procedures in place to notify other holders of this information in accordance with the FOIP Act? [ss. 36(4) and (5)]

☐ Are there procedures in place to give written notice to the individual when a correction, annotation or linkage has been made to an individual's personal information? [s. 36(6)]

☐ Are there procedures in place to transfer a request for correction to another public body and notify the individual of the transfer? [s. 15]

**If you have not checked all boxes in *Correction of Personal Information* under Part 10 of this assessment as No, please contact your FOIP Coordinator for assistance (ext. 3229).**

**Part 11: Security and Storage for the Protection of Personal Information (section 38)**

*A public body is required to protect personal information in its custody or under its control by making reasonable security arrangements against such risks as unauthorized access, collection, use, disclosure or destruction. This PIA Questionnaire is not a security assessment, nor a threat and risk assessment.*

*Please complete this part of the assessment with the understanding that ideally this section should be completed in collaboration with the information security office of your public body, or individuals responsible for information security, who can advise in relation to risk and vulnerability. The head of the public body, or their delegate, is responsible to ensure personal information is protected under the FOIP Act.*

*The “Business Owner” or “Custodian” with day-to-day responsibility for the information is accountable for any risk to the security of the confidential and personal information captured under this Initiative or under the scope of this PIA. This accountability to the head of a public body, or their delegate, must be considered and understood on the part of the program area and signatories signing off on this PIA.*

*If your public body does not have an information security policy, it is a good idea to develop one based on current industry standards, with consideration to the type and sensitivity of the information in your public body’s custody and control. Sometimes these security measures may be simple physical ones (such as locking a cabinet) or administrative (such as training) or technical. For further direction, please refer to the list of security resources attached, in consultation with your public body’s information security or information technology resources.*

Does this Initiative comply with your public body’s information security management policies, rules and procedures? [s.38]

**No – Parkland County does not have a security policy in place but one will be created for the purpose of this project. Our preliminary plans have the project being all virtual and existing on a cloud based platform. We are working with multiple vendors on the planning stage. All have security policies. When we do the final plans for the project we will be working with the vendors and creating a policy that fits all the government requirements as well technical obligations for our users.**

**If the answer is Yes, please continue with the assessment.**

**If the answer is No, you have not satisfied the security requirement of this PIA. Please contact the Information Technology Supervisor for assistance (ext. 8414).**

How is the information involved in this Initiative classified for security purposes?



Privacy Impact Assessment (PIA) Questionnaire to assess the protection of privacy in accordance with Part 2 of the *Freedom of Information and Protection of Privacy Act* (FOIP Act)  
PIA: Smart Cities Challenge – Virtual Ag. Lab.

Your public body may have its own information security classification and if it does, you should apply that classification. If not, you may wish to adapt the Government of Alberta classification system to the types of information in your public body:

[http://imtdocs.alberta.ca/Information\\_Security\\_Classification.pdf](http://imtdocs.alberta.ca/Information_Security_Classification.pdf)

Please provide or describe the information classification. If you have any questions regarding the classification please contact your records management or information security office.

Provide Department/Service Area Security Contact Information.

This should be the name of the individual able to respond to questions about meeting reasonable security measures under this Initiative.

Name	Barb Scully		
Title	Connected Communities Program Manager		
Dept. or Service Area	Smart Cities		
E-Mail	██████████@parklandcounty.com	Phone	780-968-8888 ex ██████████

Additional Comments:

Part 12: Signatures

*Suggested Signatures with Signatories names printed and date of signature.*

Signature: _____		
Signatory Name: _____		Date: _____
Service Area/Department – responsible to provide information in this PIA related to the Initiative that is complete and accurate.		
Signature: _____		
Signatory Name: _____		Date: _____
FOIP Coordinator – provides support in understanding the PIA Questionnaire and meeting FOIP Act requirements.		
Signature: _____		
Signatory Name: _____		Date: _____

**Privacy Impact Assessment (PIA) Questionnaire to assess the protection of privacy in  
accordance with Part 2 of the *Freedom of Information and Protection of Privacy Act* (FOIP Act)  
PIA: Smart Cities Challenge – Virtual Ag. Lab.**

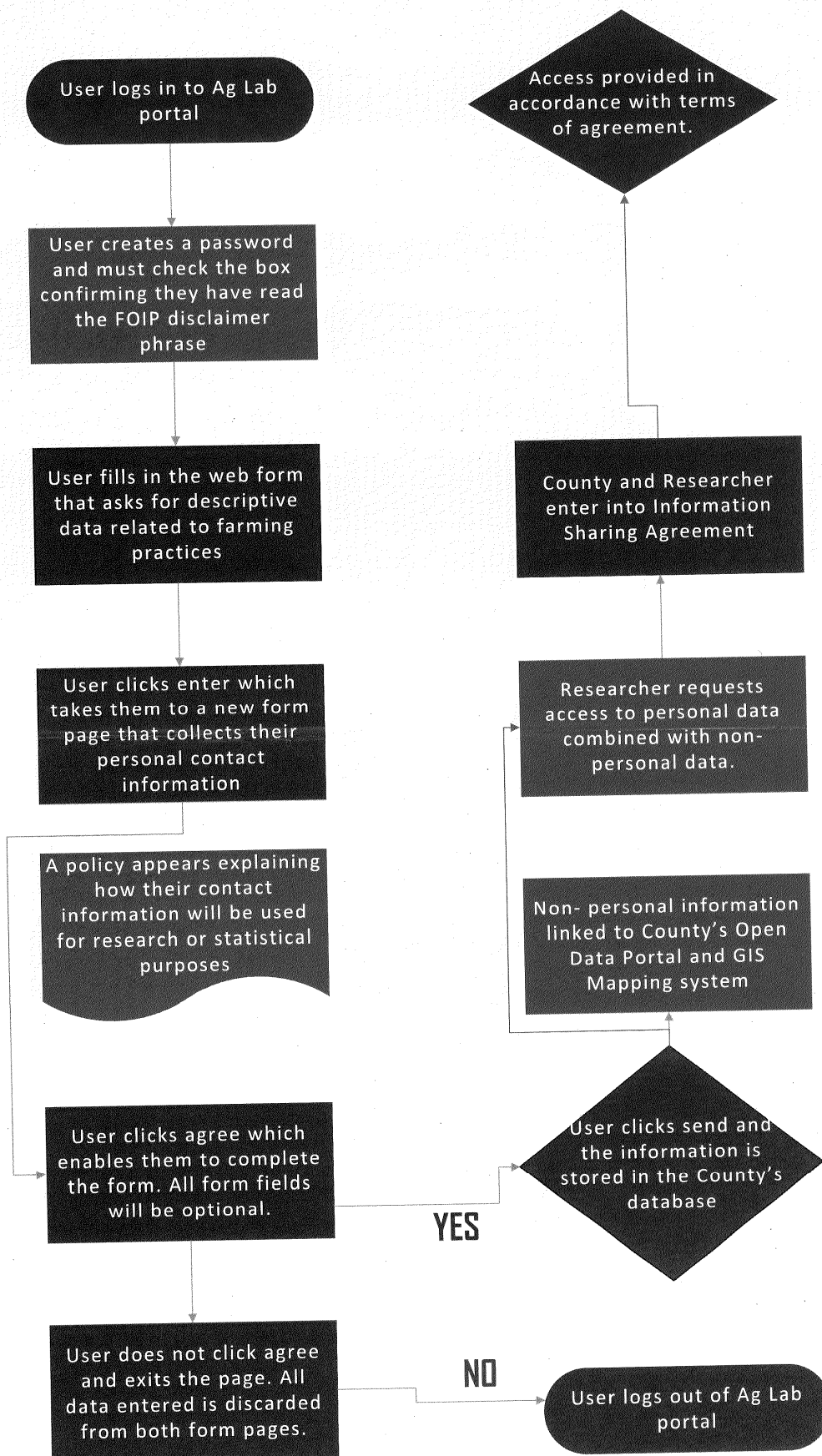
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Information Services Manager - provides support in understanding compliance with Parkland County's security directives.	
Signature: _____	
Signatory Name: _____	Date: _____
Immediate Supervisor of the owner of the PIA – someone with accountability for the department/service area or records of the project initiative	

APPENDICES:

1. Preliminary PIA Flow Chart.
2. Proposal – Access Personal Information for Research or Statistical Purposes form
3. Agreement - Access to Personal Information for Research or Statistical Purposes
4. Samples of web page privacy and security statements which Parkland County will customize and link to the Ag Lab data collection site:  
<https://www.strathcona.ca/privacy-and-security-statement/>  
<http://www.reddeer.ca/conditions-of-use-privacy-and-copyright/conditions-of-use/>
5. Information Sharing, when required for research or statistical purposes will follow the recommended guide below offered through Service Alberta's FOIP Website.  
<https://www.servicealberta.ca/foip/documents/PerInfoSharingAgreements.pdf>
6. Smart Cities Challenge Application Submission to Infrastructure Canada  
<https://www.parklandcounty.com/en/do-business/resources/SmartParkland/MP-Smart-Cities-May-4.pdf>

# Personal Information Collection, Use and Disclosure



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Name of Public Body

**Proposal  
to  
Access Personal Information  
for  
Research or Statistical Purposes**

This form is used to request access, for research or statistical purposes, to personal information contained in records covered by the *Freedom of Information and Protection of Privacy Act* (the *FOIP Act*). If this request is approved by \_\_\_\_\_,

Name of Public Body

you will be asked, prior to being provided access to records containing personal information, to sign a research agreement that ensures that individuals' privacy will be protected when their personal information is in your custody.

The collection of the information on this form is authorized by the *Act* and will be used only to evaluate and administer the request for access to personal information for the purpose of research.

The following person can answer any questions concerning this proposal or the collection of the information on this form.

Name of Contact: \_\_\_\_\_

Title: \_\_\_\_\_

Name of Public Body: \_\_\_\_\_

Business Address \_\_\_\_\_

Business Telephone Number: (     ) \_\_\_\_\_

Completeness and clarity will assist the

---

Name of Public Body

to assess this proposal quickly.

**NOTE: A fee may be charged to provide this information. An estimate of the fee will be provided in advance.**

## Proposal to Access Personal Information for Research or Statistical Purposes

### Identification of Researcher

Name (Last, First, Initials)				
Mailing Address	Street	City/Town/Village	Province	Postal Code
Telephone Number ( )		Fax Number ( )		
E-mail Address				

Provide the following additional information, if applicable:

Institutional, Society or Corporate Affiliation (include department if relevant)
Position
Provide the name of your Academic Advisor if you are a student

Provide a curriculum vitae including the following information: education, research experience, and knowledge of subject.

### Description of Research Project

Attach the following information:

1. A general description of the research project (include the objectives of the project and the proposed method(s) of analysis).
2. An explanation of why the research project cannot be accomplished without access to personal information about named or identifiable individuals.
3. A detailed explanation of how the personal information will be used, including a description of any proposed linkages to be made between personal information in the records requested and any other personal information.
4. The expected period of time during which access to these records may be required.
5. The expected period of time during which these records will be used.
6. The benefits to be derived from the research project.
7. Describe the security measures you propose to put in place. The security and confidentiality of the personal information that will be in your custody must be protected and unauthorized disclosure must not occur.

## Proposal to Access Personal Information for Research or Statistical Purposes

### Funding

Has funding to complete the project already been approved or received? ☐ Yes ☐ No

If funding is not already in place, explain the conditions and circumstances that will allow the project to be completed.

### Additional Information

Please add any other information that you believe will assist

\_\_\_\_\_ in assessing this application.

Name of Public Body

## Proposal to Access Personal Information for Research or Statistical Purposes

### Records Requested

Describe all records containing personal information to which access is requested. Provide as much detail as possible. Access will be given only to records listed below and only for the purposes approved for the research project described on Page 2 of this form. Any changes or additions to this list after the application is submitted should be made in writing and will require approval in writing from

---

Name of Public Body



**Proposal to Access Personal Information  
for Research or Statistical Purposes**

**Records Requested - Continued**

Originals may be viewed only at

---

Name of Public Body

Will you require the above records to be copied (at your expense) for viewing elsewhere? ☐ Yes ☐ No

**FOR PUBLIC BODY USE ONLY**

The application for records pursuant to Section 42 or Section 43 of the Act is approved subject to the terms and conditions of a corresponding research agreement.

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Signature of Authorized Official

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Position

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Date

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Name of Public Body

**Agreement  
for  
Access to Personal Information  
for  
Research or Statistical Purposes**

This agreement is used only when a Proposal to Access Personal Information for Research or Statistical Purposes ("the Proposal") has been approved. The Proposal must be appended to this agreement and forms part of the agreement.

**BETWEEN:**

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Name of Researcher

**AND:**

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Name of Public Body

**Description of Research Project**

The research project for which the accessed records will be used is referred to in this agreement as:

Details of the purpose of the research, how the information will be used, and linkages that will be done are included in the Proposal.

## Agreement for Access to Personal Information for Research or Statistical Purposes

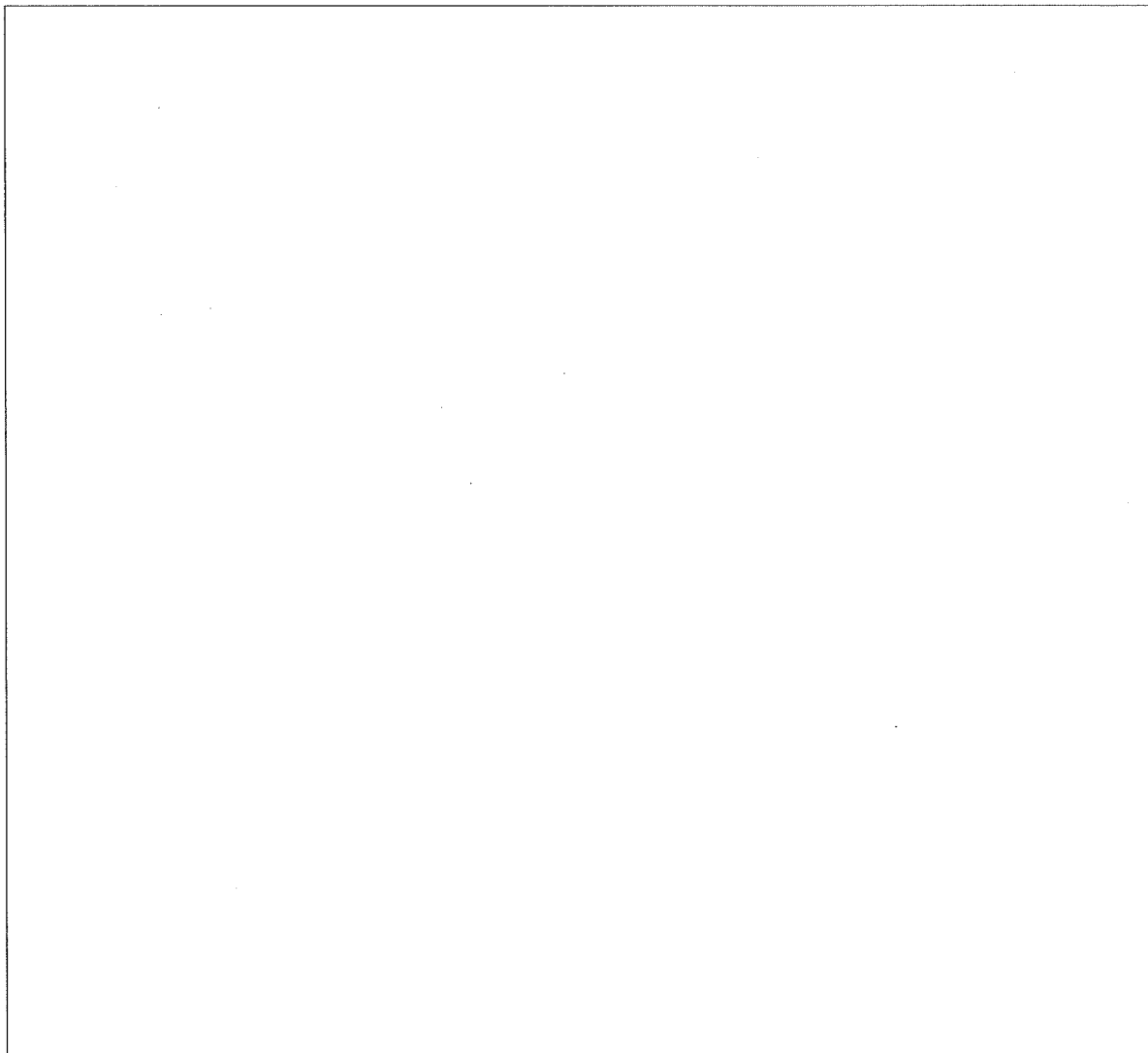
### Records Requested

Only those records requested in the Proposal will be provided ("the records"). Any changes or additions to the list must be made in writing and will require approval in writing from

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Name of Public Body

Clarification of the records requested is shown below if required.



In the event that there is a difference between the records requested above and the records requested in the Proposal, the information about records requested in this agreement governs the agreement.

The expiry date for access to the records listed in the Proposal and this Agreement is \_\_\_\_\_  
(year/month/day)

## Agreement for Access to Personal Information for Research or Statistical Purposes

### **Fee**

The Researcher is responsible for paying any fees incurred by

\_\_\_\_\_  
Name of Public Body

to search for, copy and or provide the records.

The estimated fee is \$ \_\_\_\_\_.

The Researcher understands that this estimate may be revised at any time by

\_\_\_\_\_  
Name of Public Body

and any revision will be made in writing.

### **Approval of Terms and Conditions of Access**

\_\_\_\_\_  
Name of Public Body

approves the following terms and conditions of access.

\_\_\_\_\_  
Name of Public Body

reserves the right to withdraw access to the records without prior written notice if this becomes necessary under the Act.

### **Terms and Conditions of Access**

The Researcher understands and will abide by the following terms and conditions:

#### **Security**

1. The Researcher is responsible for maintaining the security and confidentiality of all personal information found in or taken from the records.
2. The Researcher, and only the following persons, will have access to this personal information in a form that identifies, or could be used to identify, the individual(s) to whom it relates:

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Before any personal information is disclosed to the persons listed above, the Researcher will obtain a written agreement from each of them to ensure they will not disclose that personal information to any other person and will be bound by all terms and conditions of the present agreement. The Researcher will keep a copy of each such agreement, and will provide

\_\_\_\_\_  
Name of Public Body

with a photocopy of each agreement.

3. None of the records (including copies of them or notes containing personal information taken from them) will be left unattended at any time, except under the conditions described in Clauses 4, 5 and 6, below. If the Researcher is using the records on the premises of

the Researcher will comply with the security procedures of

4. Any copies of the records and any notes which contain personal information taken from them will be kept at the following address(es):

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Name of Public Body

5. Physical security at the above premises will be maintained by ensuring that the premises are securely locked, except when one or more of the individuals named in Clause 2 are present, as well as by the following additional measures (e.g. locked filing cabinet):

## Agreement for Access to Personal Information for Research or Statistical Purposes

### Security Continued

6. Individually identifiable information from the records will be maintained on a computer system to which users, other than those listed in Clause 2, have access.

☐ Yes ☐ No

If yes, access to the information will be restricted through the use of passwords and by other computer security measures that prevent unauthorized access, and can trace such unauthorized access, including the following methods:

7. \_\_\_\_\_  
Name of Public Body

will be permitted to carry out on-site visits and such other inspections or investigations that it deems necessary to ensure compliance with the conditions of this agreement.

### Use of Personal Information

8. Personal information contained in the records will not be used or disclosed for any purpose other than the research project described in the proposal (including additional linkages between sources of personal information), nor for any subsequent purpose, without the express written permission of

\_\_\_\_\_  
Name of Public Body

9. Papers or any other works which describe the results of the research undertaken will be written and/or presented in such a way that no individuals referred to in the records can be identified and no linkages can be made between any personal information found in the records and personal information that is publicly available from other sources. There will be no exceptions to this rule without prior and specific written permission from

\_\_\_\_\_  
Name of Public Body

10. Any case file numbers or other individual identifiers to be recorded on computer will be created by the Researcher or one of the persons listed in Clause 2 and will not relate to any real case numbers found in the records. Any such identifiers are to be used for statistical purposes only.
11. No case file numbers or other individual identifiers assigned for the purposes of the research project will appear in any other work.

## Agreement for Access to Personal Information for Research or Statistical Purposes

### Use of Personal Information Continued

12. No personal information that identifies or could be used to identify the individual(s) to whom it relates will be transmitted by means of any telecommunications device, including telephone, fax, cable, and wireless communication networks.

13. Unless expressly authorized in writing by

\_\_\_\_\_  
Name of Public Body

no direct or indirect contact will be made with the individuals to whom the personal information relates.

14. Individual identifiers associated with the records, or contained in copies of them, will be removed or destroyed at the earliest time at which removal or destruction can be accomplished consistent with the research purpose. At the latest, this will occur by: \_\_\_\_\_  
(year/month/day)

Any extension to this time limit must be approved in writing by

\_\_\_\_\_  
Name of Public Body

The removal of individual identifiers will be done in a manner that ensures that remaining personal information (including any found in research notes) cannot be used to identify the individual to whom it relates. **If necessary, this will be done by destroying copies of records or pages of notes in their entirety.** All destruction or removal of individual identifiers will be confidential and complete in order to prevent access by any unauthorized persons.

15. The Researcher is responsible for ensuring complete compliance with these terms and conditions. In the event that the Researcher becomes aware of a breach of any of the conditions of this agreement, the Researcher will immediately notify

\_\_\_\_\_  
Name of Public Body

in writing.

16. The Researcher understands that the *Freedom of Information and Protection of Privacy Act* specifies that a person who under the Act wilfully contravenes the Act's requirements for collection, use and disclosure of personal information is guilty of an offence and liable to a fine of up to \$10,000. In addition to liability for an offence, the Researcher understands that

\_\_\_\_\_  
Name of Public Body

may take legal action against the Researcher if there is contravention of the terms and conditions of this agreement.

17. Written consent of

\_\_\_\_\_  
Name of Public Body

must be obtained prior to the transfer of this agreement to another person, or a change in the use of the information is implemented. Consent may be arbitrarily withheld at the sole discretion of

\_\_\_\_\_  
Name of Public Body

**Agreement for Access to Personal Information  
for Research or Statistical Purposes**

**Use of Personal Information Continued**

18. \_\_\_\_\_  
Name of Public Body

will receive a copy of the final research product.

Signed at \_\_\_\_\_, on \_\_\_\_\_  
City/Town/Village Date

\_\_\_\_\_  
Signature of Researcher

\_\_\_\_\_  
Signature of Witness

\_\_\_\_\_  
Name and Position of Witness

\_\_\_\_\_  
Signature of Authorized Official of Public Body

\_\_\_\_\_  
Date

\_\_\_\_\_  
Position





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The logo for AGORA, featuring the word "AGORA" in white, bold, sans-serif capital letters. It is positioned inside a dark grey, rounded shape that resembles a stylized speech bubble or a corner of a document, with the top-right corner cut off at a 45-degree angle.

**AGORA**

# **Smart Cities Challenge**

## **Final Proposal**

### **TECHNOLOGY SUMMARY**

### **CONFIDENTIAL ANNEX**

**March 5, 2019**

Brazeau County // Lac Ste. Anne County // Parkland County // Yellowhead County

**Page(s) 238 to 244  
are withheld  
pursuant to paragraph  
20(1)(b)  
of the *Access to Information Act***

**\*\*\*\***

**La/les page(s) 238 à 244  
Font l'objet d'une exception totale  
conformément aux dispositions de paragraphe  
20(1)(b)  
de la *loi sur l'accès à l'information***

Cote Saint-Luc  
Las reviewed)

**From:** SC / VI (INFC)  
**Sent:** March 7, 2019 12:00 PM  
**To:** Darryl Levine; mchriqui@cotesaintluc.org  
**Subject:** Smart Cities Challenge - Successful Final Proposal Submission

Dear Darryl and Marc,

Congratulations! Your submission is ready to move onto evaluation following a completeness check (per the latest FAQs).

Thank you for your cooperation, patience, and hard work, especially during the past eight months. We are truly honoured to have worked with you and wish you the best of luck in the competition!

On a related matter, we have recently determined that it will not be feasible to post final proposals on the Infrastructure Canada website in a timely manner. Instead, we will take an approach similar to the application stage and publish your executive summary in both official languages on the Infrastructure Canada website with a link to the final proposal on your website. We understand that posting the final proposal on your website is not a requirement contained in the finalist guide so we appreciate your cooperation in facilitating access to your final proposal in an open and transparent way. Please note that the accessibility materials you have prepared for your final proposal will still be helpful in preparing various communications products to promote and share knowledge of your work.

Once you have posted your final proposal on your website, please send us the link if you haven't done so already. If you anticipate that you will be unable to post your final proposal on your website within two weeks, please let us know.

As always, we are happy to answer any questions. The best way to reach us going forward would be at our generic account: [infc.sc-vi.infc@canada.ca](mailto:infc.sc-vi.infc@canada.ca).

Thank you.

**Smart Cities Challenge Team**  
Infrastructure Canada  
[infc.sc-vi.infc@canada.ca](mailto:infc.sc-vi.infc@canada.ca)

## COMPLETE CHECK FOR FINAL PROPOSAL

<b>FINALIST:</b> <i>Cote Saint Luc</i>				
<b>ASSESSED BY:</b> <i>Alex Long</i>				
<b>VALIDATED BY:</b> <i>Amanda Aizlewood</i>				
<b>APPROVAL BY:</b> <i>select one: Jenny Tremblay / Eric Poirier</i>				
<b>DATE OF COMPLETION:</b> <i>enter date when all completed boxes are checked</i>				
REQUIREMENTS	COMPLETED	IF NOT COMPLETED, NOTE REASON	GUIDING PRINCIPLES	ACTIONS
<b>SUBMISSION</b>				
Submitted to <a href="mailto:info@infc.sc-vi.infc@canada.ca">infc.sc-vi.infc@canada.ca</a> by 23:59 PST on March 5, 2019	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>No extensions will be granted</li> <li>No exceptions will be made for lateness or technical problems (finalist must be able to show evidence of submission)</li> </ul>	<ul style="list-style-type: none"> <li># to contact finalist</li> <li>If not resolved, # to flag to DG for decision</li> </ul>
Final proposal is submitted	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>No extensions will be granted</li> <li>There is flexibility on the finalist video until the end of the week</li> </ul>	<ul style="list-style-type: none"> <li>Assessor to save everything in designated folders</li> <li># to contact finalist if anything is missing</li> <li>If not resolved, # to flag to DG for decision</li> </ul>
Finalist video is submitted	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>There is flexibility on the finalist video until the end of the week</li> </ul>	<ul style="list-style-type: none"> <li>Assessor to save everything in designated folders</li> <li># to contact finalist if anything is missing</li> <li>If not resolved, # to flag to DG for decision</li> </ul>
Preliminary Privacy Impact Assessment or Preliminary Rationale Analysis	<input checked="" type="checkbox"/>	In Confidential Annex	<ul style="list-style-type: none"> <li>No extensions will be granted</li> </ul>	<ul style="list-style-type: none"> <li>Assessor to save everything in designated folders</li> <li># to contact finalist if anything is missing</li> <li>If not resolved, # to flag to DG for decision</li> </ul>
<b>FINAL PROPOSAL</b>				
Written in one of Canada's official languages	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>If the final proposal is submitted in a language other than English or French, a companion version in English or French is required from the finalist</li> </ul>	<ul style="list-style-type: none"> <li># to extract the executive summary from the final proposal and send it to translation (if a French final proposal, send the entire document to translation)</li> </ul>
Generally readable (e.g. picture is not covering text, text are not overlapping)	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>If there are serious formatting issues that hinders readability, the finalist may need to resubmit</li> </ul>	<ul style="list-style-type: none"> <li># to do a scan of the final proposal and verify that all text and tables, graph, etc. could be read</li> </ul>
Text-based and in either MS Word (.doc or .docx) or a fully readable, searchable, and selectable PDF (.pdf) format	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>Finalist may adjust the format for INFC posting purposes after the deadline</li> </ul>	<ul style="list-style-type: none"> <li># to verify with Comms if format is suitable for posting, given INFC web accessibility standards</li> <li>If not suitable, # to contact finalist</li> </ul>
No longer than 75 pages* (Financial chapter exempted) and in 12 point font	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>Finalist cannot adjust content after the deadline</li> <li>If the text overall is smaller than 12 point font, INFC will adjust and evaluate within the new page count</li> </ul>	<ul style="list-style-type: none"> <li># to notify finalist if final proposal is over 75 pages</li> <li># to notify finalist if INFC had to adjust the font and page count</li> </ul>

Contains an executive summary	<input checked="" type="checkbox"/>			<ul style="list-style-type: none"> <li># to QC and save translated version into the designated folder</li> </ul>
<b>Organized by these distinct chapters (not limited to these; not necessarily in the same order):</b> <ul style="list-style-type: none"> <li>Vision</li> <li>Performance measurement</li> <li>Project management</li> <li>Technology</li> <li>Governance</li> <li>Engagement</li> <li>Data and privacy</li> <li>Financial</li> <li>Implementation phase requirements</li> </ul>	<input checked="" type="checkbox"/>	Also make a note of other chapters, if any	<ul style="list-style-type: none"> <li>Finalist must have these chapters</li> <li>Finalist can have more chapters</li> <li>Finalist can change the order of the chapters</li> </ul>	<ul style="list-style-type: none"> <li>If the chapters are not clearly labeled, # to do a light analysis of where the content may be and make a note for the Jury</li> </ul>
<b>FINALIST VIDEO</b>				
No longer than five minutes	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>Finalist may cut down the time for INFC posting purposes after the deadline</li> </ul>	<ul style="list-style-type: none"> <li># to notify finalist if video is longer than five minutes and needs cutting down</li> </ul>
Submitted as a file or in a downloadable format	<input type="checkbox"/>		<ul style="list-style-type: none"> <li>Finalist may adjust the format for INFC posting purposes after the deadline</li> </ul>	<ul style="list-style-type: none"> <li># to verify with Comms if format is suitable for posting, given INFC web accessibility standards</li> <li>If not suitable, # to contact finalist</li> </ul>
<b>CONFIDENTIAL ANNEX (OPTIONAL)</b>				
Submitted if and only if required	<input checked="" type="checkbox"/>	Contains PPIA		<ul style="list-style-type: none"> <li># to flag with DG if confidential annex is lengthy</li> </ul>



**From:** Darryl Levine <dlevine@cotesaintluc.org>  
**Sent:** March 5, 2019 10:52 PM  
**To:** SC / VI (INFC)  
**Cc:** Dida Berku; Mitchell Brownstein; Tanya Abramovitch; Marc Chriqui  
**Subject:** Smart Cities Challenge Final Proposal from Côte Saint-Luc  
**Attachments:** The VILLAGE Initiative - Smart Cities Challenge - Final Proposal - City of Côte Saint-Luc 2019-03-05.pdf; The VILLAGE Initiative - Smart Cities Challenge - Confidential Annex - City of Côte Saint-Luc 2019-03-05.pdf

Dear Smart Cities Challenge Team,

It has been a long journey and we are ready to share with you our final proposal. Thank you for the confidence you showed in Côte Saint-Luc in selecting us as a finalist. Thanks, too, for all the support the Infrastructure Canada staff has provided along the way.

We have attached the following documents:

- Final proposal and Five appendices
- Confidential Annex

The video is available at:

<https://www.youtube.com/watch?v=CO-kivG1Si8>

**Darryl Levine**

Director • Directeur

Public Affairs, Communications • Affaires publiques, communications

Ville de • City of Côte Saint-Luc

t 514-485-8905 e [dlevine@cotesaintluc.org](mailto:dlevine@cotesaintluc.org) f 514-485-6963

5801 boul. Cavendish Blvd., Côte Saint Luc, Quebec, Canada H4W 3C3

# The Village Initiative

The Future of Aging in Community

**Smart Cities Challenge—FINAL PROPOSAL**



**Canada**

**SmartCSL.org** 5801 Boul. Cavendish Blvd., Côte Saint-Luc, Quebec Canada

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## EXECUTIVE SUMMARY

In the face of a rapidly aging population, the City of Côte Saint-Luc will implement a connected framework, leveraging smart devices and related technologies that will empower seniors to: (1) live more safely and independently in their homes; (2) be better connected to their communities and city services; (3) be more socially engaged, improving the overall well-being and quality of life for older adults and reducing stress on families and caregivers, the healthcare system, and long-term care facilities.

### THE RIGHT PLACE AT THE RIGHT TIME

Côte Saint-Luc is a city of approximately 34,000 people, of which a third are seniors (age 65+). According to Statistics Canada projections, that proportion represents where Canadian society is heading over the course of the next few decades. Our community, which has been committed to improving the health and well-being of older adults through a variety of programs and services, is therefore the ideal ground upon which to test new initiatives related to aging.

The demographic shift will place an unprecedented strain on the health care system, both in terms of cost and, also, resources. In an effort to adapt to future demographics and improve the continuum of care, new solutions are being explored by the health system that will break down compartmentalization and bring care to where the patient is. Digital health is the future, and the Smart Cities Challenge has presented an opportunity for Côte Saint-Luc to lay the foundation for a partnership that will deliver better patient care to the home. What we have before us is the perfect opportunity, at exactly the right time, in the ideal place.

### OUR VISION

The VILLAGE Initiative is the future of aging in community. It operates simultaneously in the domains of technology and social transformation, and uses a Design-Thinking approach that continuously engages people and enables us to create appropriate and relevant services that meet the needs of older adults. With a focus on prevention, the Village Initiative is positioned to support the health sector while leveraging the trust and relationships that exist between people and their community.

Participants will have a single entry point, where initial intake and onboarding is done. A professional will make an assessment of his or her need and propose solutions from a menu of interventions or services. These interventions include everything from the installation of technology for safety and convenience in their home, to social prescription, to participation in the VILLAGE Community App. Privacy will be a core principle by which the VILLAGE Initiative is designed and operated, as will scalability.

The long-term impacts of the VILLAGE Initiative will be felt on multiple levels. Older adults will see an increase in their autonomy, and feel more secure living in their homes. Social isolation will be reduced. The families of older adults will gain peace of mind and experience reduced stress. Community capacity, connectedness and wellness will be improved. In the health and social services domain, the timeliness of care will be improved and placement delayed.

### GOVERNANCE AND PARTNERSHIPS

In setting up the VILLAGE Initiative, we will create a federal non-profit organization (NPO). The decision to establish a NPO with a Governing Board and its own staff, rather than run the program directly through the City was based on many considerations which include: the size of the project, reduced interference from electoral cycles, more flexibility in terms of procurement and labour, and the ability to apply for a variety of grants. The City will, however, maintain some governing control,

## EXECUTIVE SUMMARY

with two elected officials on the Governing Board, and approval rights over the budget.

The Governing Board, totalling nine people, will be made up of independent members from a diverse and relevant range of backgrounds. The NPO will be led by a CEO and a Management Team, who will set up and manage the entirety of the VILLAGE Initiative. A Technology Partner will act as the CTO and be responsible for the whole of the technology domain, platform development, and related partnerships.

A rich ecosystem of partners, including all levels of government, researchers, health sector representatives, private industry, community groups, and residents will collaborate to address the complex and widespread challenges our society faces related to aging. Côte Saint-Luc will be the epicentre for innovation—a Living Lab where senior health and aging will be studied, and solutions tested with residents, in the real world.

- The City of Côte Saint-Luc will be intimately involved in the development and implementation of the VILLAGE Initiative through such means as providing space and in-kind services, co-developing programs, and cross-promotion.
- Our research partners at the Institut universitaire de gériatrie de Montréal and at the Université de Sherbrooke have already helped develop the VILLAGE Initiative, and they and other research groups will continue in this role.
- Our health partners at the Ministère de la Santé et des Services sociaux and the CIUSSS West-Central (Regional Health Board) fully support the Initiative and will leverage it to develop their technological roadmaps and further their goals.
- MEDTEQ will support the VILLAGE Initiative through in-kind contributions of expertise and funding.
- Other partners will add expertise and collaborate with the VILLAGE Initiative in their respective domains.

## HOW IT WILL RUN

The VILLAGE Initiative was distilled into five main projects, or project categories. Each of these contain several activities. The projects are:

- 1. Governance and Operations**
- 2. Community Engagement & Social Transformation**
- 3. Platform Development**
- 4. Service Delivery**
- 5. Sustainability and Transferability**

The short-term outcomes associated with the VILLAGE Initiative activities include:

- Awareness of the VILLAGE Initiative—measured by the number of people informed about the project through communication efforts;
- Participation in Community Engagement—measured by the number of people who reach out and participate in community Engagement activities;
- Active involvement of community in service design—measured by the number of people engaged in the design and testing of products and services;
- Adoption of Products and Services—measured by the number of people onboarded and who have adopted at least one product or service;
- Participant satisfaction—measured by survey results from participants, stakeholders, and data from the platform.

Mid-term outcomes include:

- Improved digital literacy in older adults;
- Improved safety in the home;
- Improved function and autonomy;
- Improved perception of personal physical and mental well-being;
- Increased social connections;
- Better communications between seniors and their families;
- Reduced mechanical falls and increase in fall efficacy.

## EXECUTIVE SUMMARY

The VILLAGE Initiative has an implementation plan that dictates the scheduling, sequencing, and dependencies for each activity, their outputs and deliverables, and those responsible for carrying them out. In the first year, a series of plans will be generated that set the foundation for the proper management of the Initiative.

## THE TECHNOLOGY

Aging in place technology is the fastest growing sector in the longevity economy. The marketplace is filled with a dizzying array of options that seniors can choose from. During the finalist phase of our project, we consulted with residents to discover their needs, then researched and evaluated a number of solutions that could meet those needs. We created an evaluation criteria, and in the end selected the most suitable technologies to use in our pilot project.

**The Pilot Project**

The DOMUS (DOMotics at the Université de Sherbrooke) smart home solution was chosen as the main tech tool for the pilot project. Based on open technologies, it consists of small passive sensors, to which we added Amazon's Echo and a floor light path. The Sherbrooke team helped us install the sensors in the homes of pilot participants. We also used the Laipac Look Watch for safety on the go. Our pilot continues until May 2019, but so far, we have gleaned interesting data and will use what we learned to shape our future service delivery.

**The VILLAGE Platform**

The VILLAGE Platform will allow seniors to access resources in three categories for help when they need them: convenience, safety, and social connectedness and engagement. The vision and architecture for the Connected Technology Framework is based on the principles of open technologies, great experiences at home and on the go, smart automation, interoperability, and privacy and security.

## LISTENING TO OUR COMMUNITY

Community engagement is at the heart of the VILLAGE Initiative, and it has shaped every aspect of this Final Proposal. Our research partners at the Université de Montréal and the CIUSSS Centre-West helped us structure our community engagement, which consisted of focus groups, public consultations, and a senior advisory council that consulted the seniors themselves, caregivers, staff who work with seniors, future seniors and the general public.

A Community Engagement Plan set a strategy whereby residents were given opportunities for various levels of participation. We asked about the challenges to aging in place, perceptions of technology, what the City can leverage, and privacy concerns. We informed residents about what we were trying to do, consulted on their needs, consulted on their impression of proposal concepts, collaborated with them, and finally empowered them through inclusion in a pilot project.

For the next phase of the VILLAGE Initiative, we will add four principles to our community engagement approach: outreach, participation, user-friendly material, and a Design-Thinking model, which will enable residents to co-design and test products and services. In laying the foundation for a VILLAGE Community App, many community-building social innovations will be tested. Other community engagement activities include: pop-up workshops, listening sessions, showcases, interviews, thriving sessions, and more.

## DATA AND PRIVACY

The VILLAGE Initiative is deeply committed to implementing the highest standard of privacy and data protection. Sharon Polsky, privacy expert and President of the Privacy and Access Council of Canada, worked with our team to develop measures that will ensure that we depart from a point of Privacy By Design, going beyond the baseline and allowing participants to maintain control over the information. A Data Governance and Privacy Protection Policy will be created at the very beginning of the project.

## EXECUTIVE SUMMARY

## FINANCIALS

Our Projected Financial Plan reflects the planned funding strategy through which the VILLAGE Initiative will be financed. This includes the \$10 million start-up fund financed by Infrastructure Canada through 13 milestone payments, and revenue generated from number of sources to ensure sustainability and scalability in the long-term. These include:

- Partner support, most importantly from MED-TEQ and potentially from the Quebec Ministry of Health and Social Services;
- Subsidies, research grants, government grants, foundations;
- Smart device solution sales;
- Fundraising;
- Planned giving and endowment funds;
- Solution support services.

## OTHER CONSIDERATIONS

In conjunction with our economic development partners, we will integrate diversity and inclusion into our future project team. We will also further consult with the Indigenous groups in our region and make a strong effort to contact our own local Indigenous population.

In addition, we will ask the provincial government to expand its home adaptation programs to include smart technology devices as part of the program.

## CONCLUSION

We believe in the transformational power of the VILLAGE Initiative, not just for older adults and their families, but for Canadian society at large. Through a strong governance model, important partnerships, community involvement, technology and social innovation, solid privacy policies and sound management, we will bring the project to life and change the future of aging in community.



Figure 0-1: We conducted more than 15 community engagement events with more than 1,000 residents from November 2018 to January 2019. We also sent letters to 14,000 households with information about the project and an invitation to participate in the public consultations.

# Chapter 1 VISION

## 1.1 CONTEXT

Across the country, the population is aging. The number of older adults as a percentage of the population is increasing, and life expectancy is rising. Canadians face many challenges in light of this, at the individual and family level, the community level, and of course, in terms of the health care system.

Our society has not been designed around older adults or the challenges that they face, such as how and where to live safely and independently, how to easily get around, how to carry out the instrumental activities of daily living (IADLs), and how to participate in community life in a meaningful way.

In addition, being a part of society increasingly means being 'plugged in' to technology, something which many of the current older adults are not comfortable with and/or cannot easily use or access, even though there is an avalanche of new older adult-targeted products and smart home and personal devices being pushed at them. This adds yet another challenge, another obstacle for older adults to overcome.

Isolated people do not recover as well from illness as people with meaningful connections. They are more likely to get sick, get depressed, and die at a younger age than those who are surrounded by people they can count on. Many older adults have children who live in other cities and/or who lead busy lives and they don't want to impose on them.

As we have seen with our own first responder service and in public consultations, 9-1-1 is often the go-to place for people who have an issue and few people to turn to. Many older adults attempt to get some of their needs met through city services such as the public library or recreation department, as they do not feel they could rely on social services. In some cases they cease to participate

in civic life altogether, due to reasons such as access to transportation, or for reasons as mundane as being blocked in by a snowy walk that they can no longer shovel themselves.

## 1.2 OUR JOURNEY

In our preliminary proposal to the Smart Cities Challenge, entitled SHARED (Senior Health and Real-time Environmental Data) we addressed social isolation mainly in terms of security. In that vision, an isolated older adult would have more confidence about living autonomously with the knowledge that the city was looking out for their well-being, and that there would be a nuanced response to what would happen to them inside their dwellings and outside in the community. All of this was fueled by artificial intelligence (AI) enabled technologies in the home and in community. Environmental sensors were part of the vision as well. Noise and air pollution are key factors in the environment and have an impact on wellness, especially in vulnerable populations.

The spirit of the original vision of the 'SHARED' proposal has been preserved at its core, but after extensive public consultation and research, we deepened our understanding of the array of challenges older adults face, including meeting their daily needs and getting access to the health and social services they require.

At the public consultations, we learned that older adults were concerned not simply with safety and security as we originally understood it, but also social engagement and a desire for help with the tasks of daily living. With some modifications to our original vision, we could have a much greater impact on the reduction of social isolation and helping our residents age in community.



## Chapter 1 VISION

### 1.2.1 Our revised Challenge Statement

In the face of a rapidly-aging population, the City of Côte Saint-Luc will implement a connected framework, leveraging smart devices and related technologies that will (1) empower older adults to live more safely and independently in their homes; (2) be better connected to their communities and city services; (3) be more socially engaged, improving the overall well-being and quality of life for older adults and reducing stress on families and caregivers, the healthcare system, and long-term care facilities.

The name of the initiative in our preliminary proposal did not reflect the amplitude of the new vision, which is why we changed it to the VILLAGE Initiative. The environmental monitoring that we outlined in the preliminary proposal, while important, was not a top priority for our residents and not at the heart of issues that face our existing and future older adults. The VILLAGE Initiative team opted to position environmental monitoring as one of the activities in the longer-term.

In the City of Côte Saint-Luc, 30 percent of our population is age 65 or older, which means that our community already reflects the future demographics of Canada. The issues of social isolation, safety, and the challenges of aging in place are very real for our residents as they are for those in other communities across the country. When the Smart Cities team discusses the project publicly, the response is overwhelmingly positive and always very personal. Everyone has a story about a family member who fell, or would have benefitted from the services we discuss.

Aging is a universal fact and process. Every community in every province has to address it in such a way as to ensure that their residents thrive in the face of it.

### 1.3 THE PROPOSAL

**“ It takes a village to raise a centenarian. ”**

— Susan Pinker, *The Village Effect*

The VILLAGE Initiative is the future of aging in community. While the city is where the interface occurs with the older adult, it is only one player with many partners who work in tandem to reduce isolation, increase safety, and increase engagement and well-being. The VILLAGE Initiative operates simultaneously in two domains (see figure 1-1):

1. Technology
2. Social Transformation

The teams will work together and use design-thinking methods with continuous community engagement and feedback. The teams will also work with partners to co-create services and test them in living labs. The feedback from the public will inform the service delivery at every stage, ensuring that what we offer is relevant and impactful.

Participants will have a single entry point, where initial intake and onboarding is done. A VILLAGE Initiative social worker will assess the person's needs and preferences, and propose solutions from a menu of interventions or services. These will include the following:

- Home assessment, where a professional assesses the dwelling, flags hazards and identifies ways to improve safety and reduce falls.
- The installation of sensors and safety devices in the home, plus the verification and/or installation of smoke- and CO-detectors.

## Chapter 1 VISION

- The installation of convenience technology in the home, to help with IADLs.
- Provision of smart wearables for safety on the go.
- Signing up for the VILLAGE App, to connect older adults with vetted community members and city services to help with IADLs.
- Referral to existing city and community services.
- Social prescription.
- Education and training for technology.

The orientation of these services is towards **prevention**. In this way, these services support, rather than supplant the health sector.

Municipalities are the closest level of government to the population and can therefore have the most direct impact on lifestyle and well-being. The role of a city, apart from delivering routine services, is to create an age-friendly environment and to build and foster community. Residents trust their local elected officials and the staff that they interact with on a regular basis. Cities can leverage that trust to reduce isolation and improve health. The VILLAGE Initiative would harness those relationships and then add to it more layers and more connections.

### 1.4 OUTCOMES

The long-term impacts of the VILLAGE Initiative will be felt on several levels:

- **Older adults** will be less socially isolated and participate more socially. This will enhance quality of life and well-being. They will also be able to age in place for longer.
- **Families and caregivers** of older adults will have more peace of mind and benefit from a reduced burden and stress perception.
- **City services:** Use of existing city services will increase and the City will earn the Age-Friendly Community designation from the Public Health Agency of Canada. Community capacity, connectedness, and community wellness will be improved.

<sup>1</sup> See Bianca Wiley (@biancawylie) Senior Fellow at the Centre for International Governance Innovation and co-founder of Tech Reset Canada "Why we need to push for data rights in Canada." <https://business.financialpost.com/technology/why-we-need-data-rights-not-everything-about-us-should-be-for-sale>

- **Health and social services:** The timeliness of care will be improved, and there will be a reduction in lower priority emergency calls, with a corollary reduction in hospital admissions. Placement into senior residences will be delayed, and the trajectories of care will be vastly improved, as there will be an integration of community, city and social and health care services. Older adults will receive the right services at the right place at the right time, at a more reasonable cost. The VILLAGE Initiative will be aligned with the regional health network in terms of roadmap, data integration, and information privacy protection.
- **The City of Côte Saint-Luc** would become a Living Lab/innovation hub that will advance knowledge with its research partners. Interdisciplinary innovation will break down silos, resulting in a systems change with new working relationships in the community, new resources, new structures, new policies, and an improved delivery in existing programs. As the program would ripple out across the country, attitudes and perceptions of older adults will change, and aging will become a different experience for older adults of the future.

### 1.5 PRIVACY

The VILLAGE Initiative is committed to the highest standard of privacy and data protection. Privacy By Design is built into the VILLAGE Initiative and will become the standard for other Canadian cities that adopt this program. This will put Canadian cities on the map for the Cities Coalition for Digital Rights, a world initiative to promote and track progress in protecting residents' digital rights in cities<sup>1</sup>.

## Chapter 1 VISION

### 1.6 SCALABILITY & REPLICABILITY

On the technology side, the VILLAGE Initiative is scalable and replicable by design. The menu of services offered can be scaled up or down depending on community resources and the needs of the individual using the services. The basic model of service delivery is the following:

**Community Engagement > Intake >  
Menu of Services > Delivery of services**

This model is transferable anywhere in the country. The services and products that we selected are suited to our community at this time, but each city can use the ones it wants from a list that will evolve over time, given the fast-paced evolution of available technologies. The number of services offered can vary or can be added to, depending on the resources available.

The VILLAGE Initiative will use technology platforms that are open-source and tool agnostic. This renders the platforms accessible to others and future-proof, as new devices are developed and others become obsolete. All hardware will be easily available, off-the-shelf items, which will minimize the cost of the devices and increase their accessibility.

The value added by the VILLAGE Initiative is in the integration platform connected to City and health and social services. This platform will be constantly developing in response to the user experience.

On the social transformation side, most communities already have staff and volunteers who can provide services as described or with local variations. For instance, many public libraries offer technology training for older adults. These programs could be marketed differently as part of an initiative such as this one, or be prescribed, or be tweaked so as to be more accessible (e.g., take the class to the senior residence, or arrange transportation). Not every service need be completely new.

Innovation and design-thinking drive both the technology and social transformation domains of

the Village Initiative. We will assess the services and other projects for outcomes and usability—in a continual feedback loop with the end users. Our research partners will help us develop and assess the services and projects. Once we have set up the Village Initiative, delivered the services, learned from our mistakes, and determined the best practices, we will create a guide for other communities so they can replicate what we have done.

### 1.7 THE ORGANIZATION MODEL AND FLOW OF THE VILLAGE INITIATIVE

The VILLAGE Initiative, a non-profit organization, has two main domains out of which all activities and service delivery flows: technology and social transformation. It is overseen by a Governing Board and run by a senior management team. Community engagement, done continually using design-thinking and Agile models, informs all aspects of service delivery.

Research partners, with whom co-creation and living labs will grow, will feed the technology and social transformation domains. On the technology side, digital health and tech solution partners will collaborate and support research and development. On the social transformation side, the City of Côte Saint-Luc is the primary partner, and the one who will also work on the PAD program.

Community partners will work with the VILLAGE Initiative as well. There is an initial intake for service delivery, where dossiers are created and users are assessed and then prescribed services from a menu. These services include: referral to existing city and community services, social prescriptions, education and training workshops, home assessment, the VILLAGE App, tech safety and tech convenience, a public dashboard, and support from a help desk. Apart from providing services directly to users, the tech and social teams will have platform development, environmental monitoring, and the establishment of an age-friendly city.

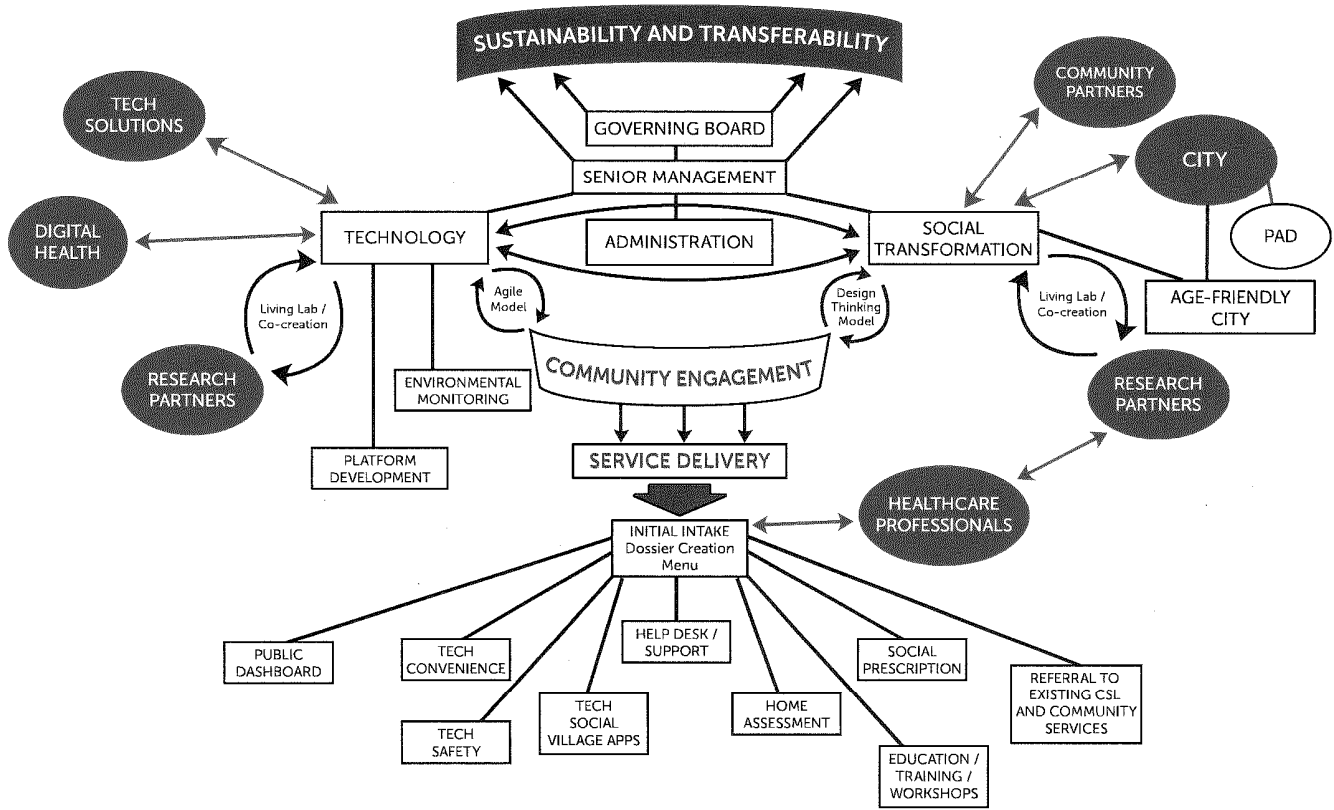


Figure 1-1: Organizational model

## Chapter 2 PERFORMANCE MEASUREMENT

Performance measurement is key for understanding, managing and improving what the VILLAGE Initiative will be doing. It is a continuous improvement operation which involves checking the performance against that benchmarks. The VILLAGE Initiative performance measurement plan uses results-based management principles by:

- Focusing on performance and achievement of outputs, outcomes and impacts.
- Monitoring progress toward the achievement of expected results.
- Integrating lessons learned into decision-making.
- Regular reporting on performance.
- Working beyond processes, activities, products and services to focus on the actual social and economic benefits of projects and programs at the level of beneficiaries.
- Working harmoniously and cohesively to be effective.
- Focusing on sustainable achievements rather than short-term results that have a long-term impact on the lives of people.

### 2.1 PROJECT ACTIVITIES AND THEIR LINK TO OUTPUTS AND OUTCOMES

The VILLAGE Initiative was distilled into five main projects, or project categories. Each of these contain several activities, into which go a number of outputs. The projects are:



Figure 2-1: The five main projects or project categories

#### Project 1—Governance & Operations

The first project involves setting up the entire framework for the VILLAGE Initiative, creating the non-profit organization, hiring the team, formalizing partnerships, planning, creating systems, and creating policies and procedures.

#### Project 2—Community Engagement & Social Transformation

This project involves a series of activities, including creating a community engagement plan and an age-friendly city plan, in addition to implementing a series of community engagement activities. It also includes a neighbourhood development strategy and activities that lay the groundwork for the VILLAGE Community App to be developed.

#### Project 3—Platform Development

The development of the platform, applications, and smart device technology begins in the first year and goes on until the end of the five years. The technologies being developed are the foundation upon which service delivery will be based.

#### Project 4—Service Delivery

For our residents, this project is the VILLAGE Initiative. It involves planning, hiring staff, setting up a delivery point, service design, procedure development, coordination with existing partners, developing a campaign, and launching actual service delivery.

#### Project 5—Sustainability & Transferability

The final project involves creating and implementing a sustainability plan, expanding existing provincial programs, and creating a guide with best practices for other cities.

## Chapter 2 PERFORMANCE MEASUREMENT

The Logic Model (see Figure 2-2) is a summary of the activities and intended qualitative and quantitative outcomes and will guide the development and improvement of the VILLAGE Initiative. It identifies the Challenge Statement and definition of the target audience, as well as secondary audiences, and focuses mostly on service delivery to the residents, as the other projects and deliverables are covered in the GANTT chart and in the Project Management section of this proposal. The model has been created to visually represent the underlying theory and logic of the VILLAGE Initiative's service delivery, and to demonstrate how project activities are linked to outputs, short-term outcomes, medium-term outcomes and long-term impacts for individuals and society.

**Outputs** refer to measurable, immediate deliverables and/or the amount of product/service that

is produced or delivered. **Short-term outcomes** refer to new learning and knowledge or change in attitude and skills among the audience. **Mid-term outcomes** refer to changes in behaviour and action that result from this new knowledge. If activities are accomplished, outputs delivered and short and mid-term outcomes achieved, then **Long-term** impacts to older adults, families, the City of Côte Saint-Luc, the health care system and society might be expected to occur.

The outcomes-based performance measurement plan will be focused on outputs and deliverables, while the long-term impacts will be built into the sustainability plan, since it will not be possible to show these kinds of effects during the five-year period.

### The Logic Model

Challenge Statement	<p>In the face of a rapidly aging population, the City of Côte Saint-Luc will implement a connected framework, leveraging smart devices and related technologies that will empower seniors to:</p> <ol style="list-style-type: none"> <li>1. live more safely and independently in their homes;</li> <li>2. be better connected to their communities and city services;</li> <li>3. be more socially engaged,</li> </ol> <p>Improving the overall well-being and quality of life for older adults and reducing stress on families and caregivers, the healthcare system, and long-term care facilities.</p>
Audience	<p>The target audience will be older residents (65+) living in Côte Saint-Luc who are beginning to experience a loss of autonomy and want to stay living at home for as long as possible while maintaining autonomy, dignity and respect. They don't need support from social services yet, but are starting to need some help. Secondary audiences will include: family and caregivers, other residents (future seniors), City staff, and Partners.</p>
Input	<p>Funding: Infrastructure Canada Smart Cities Challenge</p> <p>Equipment &amp; Tools: Tech for convenience, tech for safety, and tech for social engagement, social prescription software</p> <p>Facilities: City facilities, participants' homes, office in shopping mall (as of Year 3)</p> <p>Human Resources: Governing Board, Management Team, Technology Partner and Technology Team, Community Engagement Service Delivery Team, Partners, City Staff, Professional services</p>
Activities	<ul style="list-style-type: none"> <li>• Governance and Operations</li> <li>• Community Engagement and Social Transformation</li> <li>• Platform Development</li> <li>• Service Delivery—Intake assessment, baseline metrics and referral to menu of services including:             <ul style="list-style-type: none"> <li>• Full home assessments and adaptation</li> <li>• Smart technology prescriptions and installations for safety, convenience and social engagement</li> <li>• Social prescriptions and referrals to City programs, activities and services in and around CSL</li> <li>• VILLAGE Community App (people helping people)</li> <li>• Training and education workshops for seniors</li> <li>• Help desk, monitoring and support</li> </ul> </li> <li>• Sustainability and Transferability</li> </ul>

## Chapter 2 PERFORMANCE MEASUREMENT

Outputs	<ul style="list-style-type: none"> <li>• Policies procedures and guidelines</li> <li>• Management, Community Engagement, and Service Delivery plans</li> <li>• Monthly reports to Governing Board and Infrastructure Canada Smart Cities Challenge Team</li> <li>• Budget compliance</li> <li>• # of engagement activities offered</li> <li>• # of participants and partners engaged</li> <li>• # changes made for Age-Friendly City designation</li> </ul>	<ul style="list-style-type: none"> <li>• Deployment of smart devices for older adults</li> <li>• # of older adults onboarded (people reached)</li> <li>• # of home assessments</li> <li>• # of social prescriptions</li> <li>• # of referrals to City and community services</li> <li>• # of workshops offered</li> <li>• Retention rate of participants</li> <li>• # of people participating in the VILLAGE Community App</li> <li>• Implementation and best practice guide for transferability</li> </ul>
Short-Term Outcomes	<ul style="list-style-type: none"> <li>• Awareness of VILLAGE Initiative (public informed about the Initiative)</li> <li>• Participation level of community (public signed up to the Initiative)</li> <li>• Active involvement of community in service design, feedback cycle</li> <li>• Diversity of community engagement participants (representative of population groups)</li> <li>• Participant satisfaction as measured by adoption, acceptability, appropriateness, feasibility/usability, efficiency, effectiveness, fidelity, and penetration level</li> </ul>	
Mid-Term Outcomes for Older Adults	<ul style="list-style-type: none"> <li>• Improved digital literacy among older adults</li> <li>• Improved safety in the home</li> <li>• Improved function/autonomy (Instrumental Activities of Daily Living [IADLs])</li> <li>• Improved perception of personal physical and mental well-being</li> <li>• Better communication between seniors and families</li> <li>• Increase in social connections</li> <li>• Reduced mechanical falls and increased falls efficacy</li> </ul>	
Long-Term Impact	<p>Benefits to Older Adults</p> <ul style="list-style-type: none"> <li>• Reduced social isolation (nodes of relationships added to care map)</li> <li>• Increased social participation</li> <li>• Improved quality of life/wellbeing</li> <li>• Prolonging ability to age in place</li> </ul> <p>Benefits to families/Caregiver</p> <ul style="list-style-type: none"> <li>• Decrease caregiver and family burden (in terms of stress, time, and quality of interaction)</li> </ul> <p>Benefits to the City and the Community</p> <ul style="list-style-type: none"> <li>• Increase in use of existing services</li> <li>• Age-Friendly City designation</li> <li>• Community capacity</li> </ul> <p>Health and Social Service Outcomes</p> <ul style="list-style-type: none"> <li>• Timeliness of care</li> <li>• Reducing hospital admissions</li> <li>• Participant experience</li> <li>• Delaying placement</li> </ul>	<ul style="list-style-type: none"> <li>• Efficiency of care: Better use and integration of community, City and the social and health care services (the right services at the right place at the right time at a reasonable cost)</li> <li>• Platform that others can plug into (CIUSSS digital health)</li> </ul> <p>Benefits to society</p> <ul style="list-style-type: none"> <li>• Living Lab/Innovation Hub advancing knowledge (knowledge translation, transferability)- Interdisciplinary innovation – breaking down silos</li> <li>• Changing attitudes/perceptions about older adults</li> <li>• Systems change – new resources, structures, new adjusted policies, improved delivery of existing programs and new working relationship in the community</li> <li>• Interoperability</li> <li>• Ripples to future seniors...</li> </ul>

Figure 2-2: The Logic Model



## Chapter 2 PERFORMANCE MEASUREMENT

### 2.2 INDICATORS

The following tables show how each of the outcome and impact indicators are defined and how they will be measured.

Governance Indicators	Performance Measures
Organization	Extent to which the progress and compliance with requirements is being monitored and reported
Community engagement	Number of community engagement activities in which residents actively participated
Multi-level Governance	Extent to which the NPO, City, and Tech partner cooperate with each other and with authorities and partners from different levels
Budget compliance	Extent to which annual expenditures are compliant and aligned to project cost projections
Sustainability and Transferability	Extent to which economic activities have generated revenues and social activities have benefitted beneficiaries long-term

Table 2-1: Governance indications and performance measures

Community Engagement Indicators	Performance Measures
Representative	Extent of engagement participation by stakeholder groups Increased participation of vulnerable groups
Trust	Extent of competence, integrity and dependability/reliability of the engagement process
Influence	Extent of effects of project participation on community participants, and of participants on design
Responsiveness and Communication Quality	Extent to which interactions with the public are timely, helpful, and clear
Accessible	Extent of engagement and technical tools available to ensure participation & feedback
Transformative	Extent of benefits to the community participants

Table 2-2: Community engagement indicators and performance measures

Platform Development Indicators	Performance Measures
Value Delivery	Extent the support platform is intelligent, as well as customizable to user needs Extent the implementation of prototype in homes of older adults is perceived as trouble-free and efficient Extent of acceptability, usability, and adoption by users of the VILLAGE platform
Risk Management	Extent of privacy protection and protection of personal data
Resource Management	Extent to which the management of resources (budget, human capital, material) have been used
Performance Measurement	Extent the support platform tracks and records user feedback and corrects technical malfunctions Extent the platform is responsive to user's feedback



## Chapter 2 PERFORMANCE MEASUREMENT

Platform Development Indicators	Performance Measures
Strategic alignment	Extent to which the platform is aligned to user needs and challenge statement
Frailty	Screen for frailty
Acceptability	Satisfaction with various aspects of the innovation (content, complexity, comfort, delivery, credibility)
Adoption	Intention, initial decision, or action to try an innovation “uptake”
Appropriateness	Perceived fit, relevance, or compatibility of the innovation
Feasibility/Usability	Actual extent to which innovation can be successfully used for its intended purpose – based on effectiveness, efficiency and satisfaction, system usability scale
Fidelity	Delivered as intended based on protocol
Implementation cost	Marginal cost; cost effectiveness; cost-benefit
Penetration	Level of “reach” or spread or service access
Sustainability	Retention, maintenance or continuation by user

Table 2-3: Platform development indicators indications and performance measures

Service Delivery Indicators	Performance Measures
Quality	Extent of tangibles (reliability, responsiveness, assurance and empathy of service)
Availability	Increase access to and use of technologies
Revenue Improvement	Extent of price adaptability of service
Customer Experience	Extent of customer understanding of service Extent of customized services
Process Cycle (time, improvement)	Extent of waiting time
Digital Literacy – Older Adults	Extent of difficulty in adapting to wearables and other related smart technologies
Safety	Increased safety in the home (Safety Assessment Scale)
Perceived Physical and Mental Health	Extent of smart-home customer expressing improved physical and mental health
Increased functional Status	Ability to perform tasks necessary to live independently in the community (Lawton Instrumental Activities of Daily Living Scale)
Improved Communication between Seniors and Families	Extent of senior’s family participation months after smart home devices installed
Increased Social Connections	Frequency and quality of family, friendship and neighbour ties (Lubben Social Network Scale)
Reduced Mechanical Falls/ Increased Falls Efficacy	Falls Efficacy Scale

Table 2-4: Service delivery indicators and performance measures

## Chapter 2 PERFORMANCE MEASUREMENT

Sustainability and Transferability Indicators	Performance Measures
Economic Performance	Extent of VILLAGE smart home products and memberships installed Extent of revenue sources acquired from the VILLAGE Initiative
Social Performance	Extent of social impact the VILLAGE Initiative has on community and users of services

Table 2-5: Sustainability and transferability indicators and performance measures

Benefits to older adults	Performance Measures
Reduced Social Isolation (nodes of relationships to care map)	Quality and quantity of social relations with at different levels where human interaction takes place (individual, group, community and the larger social environment). Frequency of face-to-face human interaction
Social Participation	Extent of satisfaction with personal and family relationships and perception of loneliness
Quality of Life/Psychological Well-Being	Psychological General Well Being Index (Dupuy)
Prolonging Ability to Age in Place	Government checklist – Are You Ready to Age in Place

Table 2-6: Benefits to older adults indicators and performance measures

Benefits to Families/Caregivers	Performance Measures
Decrease in caregiver and family burden	Caregiver risk screen
Peace of mind/perceived stress	Extent of relieved stress of caregivers

Table 2-7: Benefits families/caregivers and performance measures

Benefits to City	Performance Measures
Increase in use of existing services	Internet access for percentage of lowest income and most isolated seniors
Increase social and economic resilience of older adults and community	Connection points in the community
Age-Friendly Community designation	Extent of following guidelines of Public Health Agency of Canada
Community capacity	Community capacity scale – social capital

Table 2-8: Benefits to City and performance measures

## Chapter 2 PERFORMANCE MEASUREMENT

Health and social service outcomes	Performance Measures
Reducing hospital admissions/ Reduction in priority 3 and 4 calls	EMS data (Hospital admission is costly and often preventable)
Efficiency of care	Better use and integration of community, city and the social and health care services (the right services at the right place at the right time at a reasonable cost) Just in time indicator

Table 2-9: Health and social services outcomes and performance measures

Benefits to Society	Performance Measures
Living Lab/Innovation Hub advancing knowledge (Knowledge translation, transferability) – interdisciplinary innovation	# of white papers written by researchers and organizations on VILLAGE Initiative # of cities modelling the VILLAGE Initiative for seniors in their territory
Changing Attitudes/Perceptions of Older Adults	# of positive, negative and neutral stereotypes on aging changed
Systems Change – New Resources, structures, new adjusted policies, improved delivery of existing programs and new working relationship in the community	# of resources, structures, adjusted policies, improved delivery of programs and new working relationship in the community changed
Ripples to Future Seniors	# of future seniors onboard the VILLAGE Initiative platform
Inter-operability	Extent to which project has increased a community infrastructure that provides services to and accept services from other community and health care infra-structures and to use the services so exchanged to enable them to operate (CIUSSS DIGITAL HEALTH)

Table 2-10: Benefits to society and performance measures

## 2.3 PROJECT TIMELINES, DELIVERABLES, AND MILESTONES

The GANTT chart below focuses on timelines, deliverables, and milestones, which are easily measured and quantifiable.

					Y1				Y2				Y3				Y4				Y5			
Projects	Activities/Deliverables	Duration	Dependen- cies	Human Resources	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Governance and Operations																								
	Create NPO and recruit Governing Board	6 months		Côte Saint-Luc (CSL)																				
	Establish Board rules, structure and framework	3 months	Create NPO	CSL																				
	Hiring CEO and Management Team	3 months	Establish rules	Governing Board (GB)																				
	Create policies and procedures	3 months	Hiring MT	Management team (MT)																				
	Establishing professional services	3 months	Create NPO	COO																				
	Financial plan and budget	3 months	Hiring MT	MT																				
	Sign contracts with Technology Partner	3 months	Professional services (PS)	MT, GB, PS (lawyer)																				
	Sign contracts with other partners	3 months	PS	MT, GB, PS (lawyer)																				
	Create HR management plan	3 months	Hiring MT	MT																				
	Create risk management framework	3 months	Hiring MT	MT, GB																				
	Establish outcome measurement plan	3 months	Hiring MT, partner contracts	MT, Research Partner																				
	Create data governance and privacy protection policy	3 months	Hiring MT and PS	MT, PS (Privacy expert)																				
	Develop marketing and communications strategy	3 months	Create NPO	MT, CSL																				
	Set up new location (service delivery and offices)	9 months		MT, GB, PS																				
Community Engagement/ Social Transformation																								
	Finalize CE Plan (including work with indigenous groups)	3 months	Hiring MT	DIR - CE/SD																				
	Create ViliAGE Community App/neighbourhood development strategy	27 months	Finalize CE Plan	DIR - CE/SD, CEO, TP																				



Projects	Activities/Deliverables	Duration	Depend- cies	Human Resources	Y1				Y2				Y3				Y4				Y5			
					Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
	Hire Community Engagement (CE) Coordinator	3 months	Governance and operations	MT, GB																				
	Implement CE Activities	Ongoing	Finalize CE Plan	DIR - CE/SD, CE Coordinator																				
	Create plan for Age-Friendly City designation	6 months	Hiring Management Team	CEO, CSL																				
Platform Development																								
	Core platform development	48 months	Technology Partner (TP)	TP, RP, MT																				
	Application development	48 months	Technology Partner	TP, RP, MT																				
	Smart device development	48 months	Technology Partner	TP, RP, MT																				
	System integrations	36 months	Technology Partner	TP, RP, MT																				
	Testing, staging, and deployment	36 months	Technology Partner	TP, RP, MT																				
Service Delivery																								
	Create service delivery plan	15 months	Hiring MT	DIR - CE/SD																				
	Create inventory of intake assessment tools	3 months	Hiring MT	DIR - CE/SD, RP																				
	Hire service delivery staff	6 months	Create SD Plan	MT, GB																				
	Design home assessment service	3 months	Hiring SD Staff	DIR - CE/SD, OT																				
	Develop help desk procedures	6 months	Hiring SD Staff	Case Managers																				
	Design education and training workshops and tools	6 months	Hiring SD Staff	Program Staff																				
	Make integration plan with existing csl and community services	6 months	Hiring SD Staff	DIR - CE/SD, CSL																				
	Create service delivery campaign	3 months	Platform development	Marketing coordinator																				
	Launch service delivery	27 months	Platform development, New location	DIR - CE/SD, RP and SD Staff																				
	Monitor results	27 months	Launch service delivery	DIR - CE/SD, RP and SD Staff																				

					Y1				Y2				Y3				Y4				Y5			
Projects	Activities/Deliverables	Duration	Dependen- cies	Human Resources	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Sustainability and Transferability																								
	Finalize sustainability plan (revenue model inc. user fees, grants, partnerships, etc.)	48 months	Hire Manage- ment team	MT, GB																				
	Create and implement fundraising plan	33 months	Hiring Fund- raising	Fundraiser																				
	Lobby to expand PAD program to include Smart Homes Devices	21 months		CEO, CSL, RP																				
	Implement sponsorship and partnership revenue agreements	27 months		COO																				
	Create implementation and best practice guide- lines for transferability	6 months	platform development, service delivery	MT, GB, RP																				
	Guidelines and framework for licencing VILLAGE solution to other cities	6 months	platform development, service delivery	MT, CTO																				

Table 2-11: Implantation plan

## 2.4 PAYMENT SCHEDULE

The VILLAGE Initiative will only be able to be established with the senior staff and extensive legal support in place, out of which everything else will flow. Most of the Governance and Operational set up will occur in the first year, so we would request the first payment to be 'seed capital' covering our first 12 months of operations in order to make that possible.

Outcomes-Based Performance Measurement - Milestones and Payments		Y1	Y2				Y3				Y4				Y5			
Category	Description	Seed capital	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Awareness of the VILLAGE Initiative	This is the number of people that would gain awareness of the VILLAGE Initiative through our marketing efforts to our population of approx. 34,000 residents.		5,000		5,500		6,000		6,500		7,000		7,500		8,000		8,500	9,000
Participation in Community Engagement	This is the number of people who reach out and participate in our Community Engagement activities.		200		300	350	400		500	550	600		650	750	800		1,000	1,250

Outcomes-Based Performance Measurement - Milestones and Payments		Y1	Y2				Y3				Y4				Y5			
Category	Description	Seed capital	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Design and Testing Workshops	This is the number of people who are engaged in design and testing of products and services piloted by the VILLAGE Initiative, including: * Social Transformation/Village Community App * Technology for the Home * Technology for On the Go * Technology for Social Engagement * Technology for Healthcare Integration		50		125		150		175		200		225		250		275	
Adoption of Products and Services	This is the number of people who are onboarded into the VILLAGE Initiative and have adopted at least one product or service, including: * Social Transformation/Village Community App * Technology for the Home * Technology for On the Go * Technology for Social Engagement * Technology for Healthcare Integration						50		100	250	300		350	600	650		850	900
Benefits Derived from Adoption	Results will come from surveys, data from the VILLAGE Platform, and stakeholders, including: * Improvement in convenience * Improvement in safety * Improvement in communication * # of new connections * Decline of social isolation * # of needs/incidents responded to * Need/incident response time * Improvement in overall health and well-being						38		75	188	225		263	450	488		638	675
Milestone Payment		\$1,061,000	Q1	\$762,000			Q1	\$1,229,500			Q1	\$1,229,500			Q1	\$1,262,000		
			Q2				Q2				Q2				Q2			
			Q3	\$457,200			Q3	\$737,700			Q3	\$737,700			Q3	\$757,200		
			Q4	\$304,800			Q4	\$491,800			Q4	\$491,800			Q4	\$504,800		

Table 2-12: Outcomes-Based Performance Measurement with the milestones and payment schedule

## Chapter 2 PERFORMANCE MEASUREMENT

### 2.5 RISK STRATEGY AND MITIGATION

Risks	Mitigation Plan
Basing performance indicators only on quantitative data	Ensure that qualitative indicators are measured as well (through interviews, surveys, focus groups, and observation)
Lack of validity and reliability of outcomes	Ensure reliable and valid tools are being used and use multiple methods to triangulate the results.
Medium- and long-term outcomes may not be achieved for many years	Ensure service delivery starts on time Focus on showing medium- to long-term outcomes in sustainability plan.
Not being able to collect baseline metrics	Ensure evaluation tools are built into the platform on time
Not meeting timelines	Establish clear monitoring and reporting of deliverables based on dependencies Report on works in progress to the Governing Board on a monthly basis. Establish clear status reporting between Platform Development and Service Delivery

Table 2-13: Risks and mitigation plan



## Chapter 3 PROJECT MANAGEMENT

Proper project management will ensure that the people responsible for bringing the VILLAGE Initiative to life stay on course and are accountable for delivering on the promise so awaited by our public. This chapter outlines a variety of strategies and tools for the organization to use related to resource assessment, risk identification and mitigation, communication and monitoring.

### 3.1 PROJECT SCOPE, SCHEDULING, SEQUENCING, AND DEPENDENCIES

The VILLAGE Initiative consists of five main projects, with several activities outlined in each. The GANTT chart (Figure 2-11) in Chapter 2—Performance Measurement indicates the scheduling, sequencing, and dependencies for each activity, in addition to the human resources, and the schedule of deliverables/outputs.

### 3.2 RESOURCE ASSESSMENT

#### Human Resources

A Human Resources Management Plan will be created by the Management Team that will outline the following:

- Individual and team roles and responsibilities for each of the projects and who will be responsible for all the hires
- A recruitment strategy
- Onboarding procedures and documentation

- Job descriptions with performance expectations
- Team-building programs
- Training programs
- Development of policies and procedures
- Performance Assessment and roll out plan

During the implementation phase of the Governance & Operations project, the HR Plan will be used for the acquisition, onboarding, training, and development of human resources.

The Organizational Chart below (see Figure 3-1) illustrates the structure of the VILLAGE Initiative. Closely mirroring the Organizational model (Figure 1-1), it ties the actual staff positions to Initiative activities. While the CTO technically has a separate technology team, they are included in this chart as they are funded by the Smart Cities Challenge, and will work very closely with the community engagement and service delivery teams. The roles of the Management Team are outlined in the Governance Chapter.

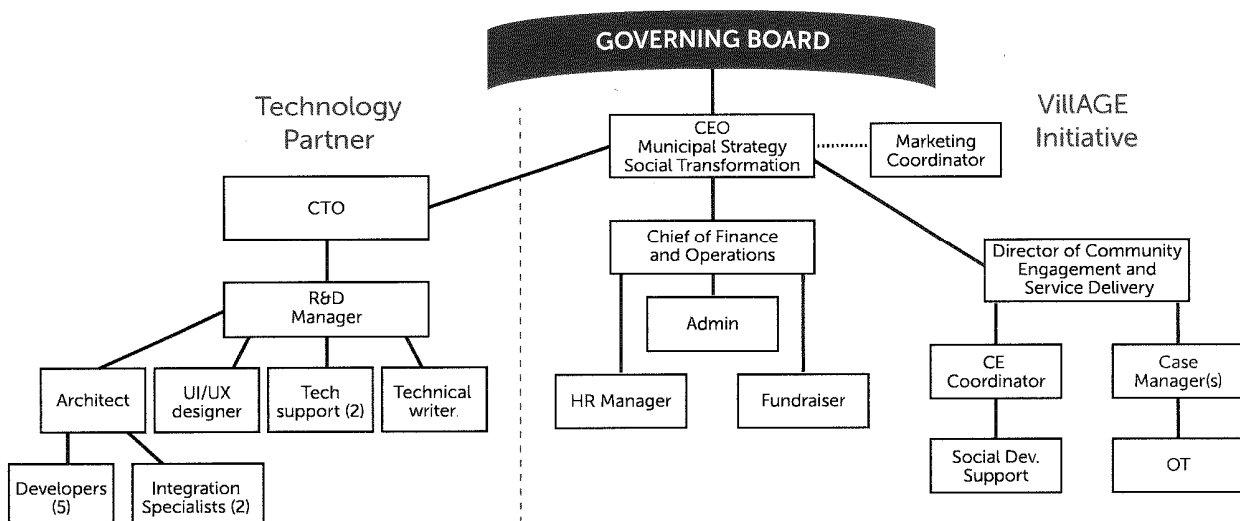


Figure 3-1: Organizational chart

## Chapter 3 PROJECT MANAGEMENT

### 3.3 MATERIAL & FINANCIAL RESOURCES

Many material resources will be provided by the City of Côte Saint-Luc. This includes IT systems, marketing and communications resources, space for community engagement, and office space for the first few years. The infrastructure for service delivery is also well-established within City departments, whose resources can be tapped when required. This includes the Library, the Parks & Recreation, Public Safety (including EMS and vCOP). All financial resources are explained in the Financial Chapter.

### 3.4 STRATEGIES

#### Risk Identification & Mitigation

A Risk Management Plan will be created by the Management Team in the first year that will outline the following:

#### Roles and Responsibilities for Risk management

- Methodology
- Risk categories
- A Risk Breakdown Structure (RBS)
- Cost Management Plan
- Risk probability and impact assessment
- Risk categorization
- Reporting formats
- Tracking

Each project lead will manage the risks for his or her project. See Monitoring, Controlling, and reporting section, below.

Following are the best practices we will aim to implement in mitigating risks:

- No rush planning; bringing all stakeholders to the table and get their commitment
- Create proper governance and support structure
- Assemble a dedicated team
- Make sure team members know their roles
- Create test environment
- Deliver larger projects in phases

- Get clients to test and create or modify existing business processes
- Plan for a bumpy data migration
- Create service-level agreement with client
- Blitz support on go-live date
- Monitor systems for 60 days
- Celebrate success and acknowledge the team
- Procurement Management

A Procurement Management Plan will be created by the COO that will outline the following:

- Procurement policies and procedures;
- Risk Management issues;
- Contract Change Control systems;
- Payments systems;
- Claims administration;
- Performance reports;
- Payment systems.

The CEO and Governing Board will review all contracts, as will, when relevant, the CTO and Director of Community Engagement and Service Delivery. Outside legal counsel will be required for every contract, as there is no lawyer on staff.

The largest and most important contract will be with the Technology Partner (CTO), who will be responsible for developing the technology procurement plan, solicitations, equipment purchases, contracts with partners and vendors, hiring and managing technology team, make-or-buy analyses, systems integrations, activity costing and more.

#### Stakeholders

Stakeholders are individuals who are involved in the project, or whose interests may be positively or negatively affected as a result of the execution of the project.

## Chapter 3 PROJECT MANAGEMENT

Stakeholder	Impact and Influence
Senior residents (age 65+)	This group is the target audience for the VILLAGE Initiative. They have the most influence on all aspects of the project, and it impacts their lives the most. As a result of the Initiative, they will have more autonomy and be safer living at home and in community.
Families of senior residents	The people directly linked to the seniors are also extremely affected by the project and have a lot of influence on how it will unfold. They could gain tremendous peace of mind from the Initiative and also have their lives made easier if their loved ones are more autonomous.
Future seniors (age 40–64)	Those not quite senior yet will be able to reconsider their entire approach to aging in light of the VILLAGE Initiative, and perhaps, with this increased awareness, use prevention to avoid negative outcomes in the future.
Participating residents	The notion of the VILLAGE is to ideally have the entire community participate and help one another for mutual benefit thus strengthening the community as a whole. The impact of the group on the success of the project is important.
The City of Côte Saint-Luc	The City of Côte Saint-Luc, its residents, reputation, and demographics will be heavily impacted by the VILLAGE Initiative, which is game-changing for the municipality. The City itself will continue to have an extremely important and influential role in the project.
Technology Partner	This company and its president, who will be the VILLAGE CTO, has a major influence on the project and all its outcomes. Its success depends on this partner.
Future Board members	This group will have significant influence on the direction of the VILLAGE Initiative and will directly impact key decisions.
Future VILLAGE staff	Those earning their livelihoods from the project will of course be impacted by it. They will have a major influence on its implementation and success, but also on the lives of the individuals who participate in it. Those who have worked on it so far have been transformed already, and will only be more so as they see it through.
Community partners	This group stands to benefit immensely from the VILLAGE Initiative, and can co-develop programs and services with us. With social prescription and referrals, the project could even see their attendance numbers increase.
Research partners	The impact and influence of university research partners on the Initiative is already significant and will continue to be so. They have already helped shape the direction of the project, and will advise and co-create with us in the future as well.
Health and Social Services Centre	The strain of a rapidly aging population on these institutions is acute. The Initiative could have an immense benefit to and help alleviate the burden on the health system. The Initiative will complement rather than overlap with the services provided by these centres. Our partnership with them is highly valuable.
Hospitals	The hospital system is both a major beneficiary and major partner of the VILLAGE Initiative. The project will improve the trajectories of care, and advance the objectives of the health care system, which is moving towards digital health and transferring care to where the patient is. The Initiative will also receive advice and expertise from this group.
Provincial government	The province has a major impact on this project in terms of support, funding, and direction. It will have a seat on the Board, and can, within its powers, shift the entire focus of health spending on prevention and programs such as this.

## Chapter 3 PROJECT MANAGEMENT

Stakeholder	Impact and Influence
Service providers to seniors	Several kinds of people fall into this category, and they are those that will be more indirectly affected by the project. This group includes: pharmacists, taxi drivers, transit services, and gardeners, but also companies like Lifeline, security companies, etc.
City staff, especially those who work in the Library, Parks & Recreation, Public Safety (including EMS & vCOP)	Many in this group will be heavily impacted by the VILLAGE Initiative, in that new programs, services, and standards will need to be created, adapted, or adopted by them.
Building operators	If the VILLAGE Initiative is successful, building operators (including superintendents) may have a more significant role to play in the lives of their tenants. They can opt to install smart technologies, receive alerts, and also impact social activities in the building.
Senior residence operators	These operators will be both positively and negatively impacted by the VILLAGE Initiative. People living in their homes longer means they don't move into these facilities, but on the positive side, they could make excellent partners for deploying technologies and augmenting their services.
Emergency Response Services (Ambulance, Fire, Police)	The Initiative will definitely have a positive impact on these services, because prevention is a major part of what it's about. They will be better able to do their jobs if we succeed.
MEDTEQ	This consortium will have definite impact on the project, especially in the realm of funding. With funding will come a measure of influence.
Tech companies who create tools	Any variety of businesses who develop technology tools for seniors could benefit from this project, especially those open to working with us. Some will see the Initiative as competition, but most could co-develop new products with us and test them with our target population.
Other cities	Other cities (nearby and not) can be both positively and negatively impacted by the VILLAGE Initiative. The project may create expectations in their populations that they may not be able to meet, and if any responsibility for health is devolved to cities, it will definitely impact both their budgets and operations. Other cities also stand to gain from the project, as the knowledge and technologies will be openly shared with them.

Table 3-1: Stakeholder impact and influence

**Communications**

Project Communications Management involves the creation of a Communications Strategy, which will include:

- Stakeholder register
- Stakeholder communication requirements
- Stakeholder Management Strategy
- Information to be communicated (including language, format, content)
- Communications distribution channels (e.g. emails, press releases, social media)
- Communications technology
- Communication requirements analysis
- Communication models and methods

A Marketing and Communications Coordinator will be responsible for all VILLAGE Initiative communications and the creation of the Plan. This person is linked to the CEO but reports to the Director of Public Affairs, Communications and IT in the City

## Chapter 3 PROJECT MANAGEMENT

of Côte Saint-Luc. The reason for this structure is that the City is providing many in-kind donations related to marketing and communication, and so it made more sense to have a resource dedicated to the VILLAGE Initiative on that team.

### 3.5 MONITORING, CONTROLLING & REPORTING STRATEGIES

Each project lead will manage their project scope, time, cost, quality, human resources, and risk management. This includes:

- Defining and sequencing activities
- Estimating the resources required
- Estimating the duration of each activity
- Developing and controlling a schedule
- Estimating costs
- Determining and monitoring a budget
- Performing quality assurance and quality control

Where the Management Team is designated as responsible in the GANTT chart, the CEO will ensure that the activity gets completed.

Issues may escalate in certain areas of our project plan. To address them, an 'issue log' will be instituted. The log will manage the status, level of importance or priority, provide a description of the issue, a resolution timeline, possible escalation and evaluate the impact it may have on a project or other dependencies as well as indicate who will be responsible for managing it. The log will be accessible and archived when completed on the VILLAGE Intranet management system.

For the closure of each activity, 'lessons learned' documentation will be created, which includes variances, corrective actions taken and other relevant information.

The culture of the VILLAGE Initiative as an organization must be one that accepts failure as a means of learning, without which innovation and best practices will not occur. As long as failures are acknowledged as they occur, discussed, documented, and corrected, the Initiative will move forward.

#### **Project Reporting and Communication**

We will provide regular reports and communications to various stakeholders and partners of the VILLAGE Initiative such as monthly status updates, regular reviews, and as-needed communication to keep them informed.

#### **Quality Assurance and Quality Control**

To monitor and verify the effectiveness of processes used to manage and create the deliverables, we will be using a Quality Assurance software solution like TestRail. It is an easy to use web-based QA tool that integrates task lists and time tracking module solutions to organize test cases, execute tests, collect results, and coordinate testing efforts. TestRail also lets you automatically project past estimates and actual time spent into the future to predict workload more accurately. Project dashboards and email notifications keep you informed throughout your testing. All activities and test results are archived so that you always have a detailed history available for your reference. Each project manager with his team will be responsible for tracking and testing their activities for Quality Assurance.

## Chapter 3 PROJECT MANAGEMENT

## 3.6 KEY RISKS

Risks	Risk Mitigation Plan
Unavailability of human resources/skill gaps	<ul style="list-style-type: none"> <li>• Get the right team by using resource allocation techniques and secure them when they are available</li> </ul>
Achievement Requirements	<ul style="list-style-type: none"> <li>• Clarifying requirements by holding workshops</li> <li>• Interviewing stakeholders</li> <li>• Producing a comprehensive scope document and project brief</li> </ul>
Lack of communication between key stakeholders, project managers, customers	<ul style="list-style-type: none"> <li>• Plan our communications and include all key stakeholders, managers and consumers</li> </ul>
Schedule coordination	<ul style="list-style-type: none"> <li>• Appoint a coordinator responsible for ensuring proper coordination of activities and their dependencies across the projects</li> <li>• As a secondary role, the coordinator will ensure project managers work collaboratively to improve efficiency and effectiveness</li> </ul>
Delays in project start-up/execution	<ul style="list-style-type: none"> <li>• Produce a development chart to measure delay and milestone slips of all projects to stay on track and on budget</li> </ul>
No Plan B when Unforeseen Problems Happen	<ul style="list-style-type: none"> <li>• Plan risk responses</li> <li>• Prepare an alternative plan which includes</li> <li>• Contingency fund</li> <li>• Additional resources on standby</li> <li>• Options to break the project into segments and/or reduce scope</li> </ul>
Stakeholders disappointed	<ul style="list-style-type: none"> <li>• Create Stakeholder register</li> <li>• Stakeholder communication requirements</li> <li>• Create a Stakeholder Management Strategy that sets the expectations from the very start.</li> </ul>

Table 3-2: Risk mitigation plan

## Chapter 4 TECHNOLOGY

### 4. THE TIME IS NOW

We live at a time where older adults can benefit from technology that improves their quality of life at home and in community. This has been made possible by advances in smart devices, data science and system interoperability. This technology has reached a maturity where it can provide older adults with more confidence, convenience, safety, and social connectedness.

#### 4.1 TECHNOLOGY ADOPTION AMONG OLDER ADULTS IS GROWING

Contrary to popular stereotypes, older adults are adopting technology at a growing and rapid rate. Recent Pew Research Center surveys<sup>2</sup> found that 42 percent of adults ages 65 and older own a smartphone—up from just 18 percent in 2013—and 67 percent use the Internet and home broadband—a 55-percentage-point increase in just under two decades (see figure 4-1).

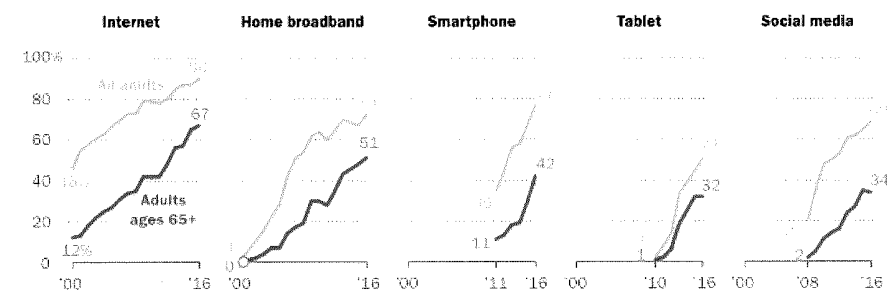
### 4.2 A FAST-GROWING TECH SECTOR IN THE LONGEVITY ECONOMY

The Longevity Economy is expected to grow to more than \$30 billion in the next few years<sup>3</sup>. Families, caregivers, and older adults will increasingly be acquiring new tech-enabled services that improve the quality of their lives. The 50+ market is increasingly aware of technology alternatives. The desire to live at home dominates the minds of the city-dwelling baby boomers who began turning 72 in January 2018. Health costs rise and health policy drives care into the home. Stark consumer economic realities prevent moves to senior housing and life expectancy at age 65 still substantial, especially for women.

There are four main categories of technology for aging in place (see figure 4-2). Each useful in itself—but together, they provide a complete, albeit complex puzzle for maintaining connections, safety, health, and a more fulfilling and interactive life as we age.

#### Smartphone adoption among seniors has nearly quadrupled in the last five years

% of U.S. adults who say they have or use the following



Source: Survey conducted Sept. 29–Nov. 8, 2016. Trend data are from previous Pew Research Center surveys. "Tech Adoption Climbs Among Older Adults"

PEW RESEARCH CENTER

Figure 4-1: Charts showing smartphone, Internet, tablet, and social media adoption amount older adults.

<sup>2</sup> <http://www.pewinternet.org/2017/05/17/tech-adoption-climbs-among-older-adults>

<sup>3</sup> The 2018 Market Overview from Aging in Place Technology Watch

<https://www.ageinplacetechnology.com/files/aip/Market%20Overview%202018%20Final%2003-14-2018.pdf>

## Chapter 4 TECHNOLOGY

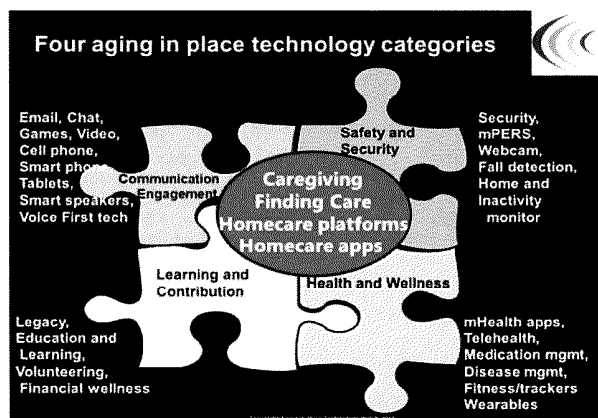


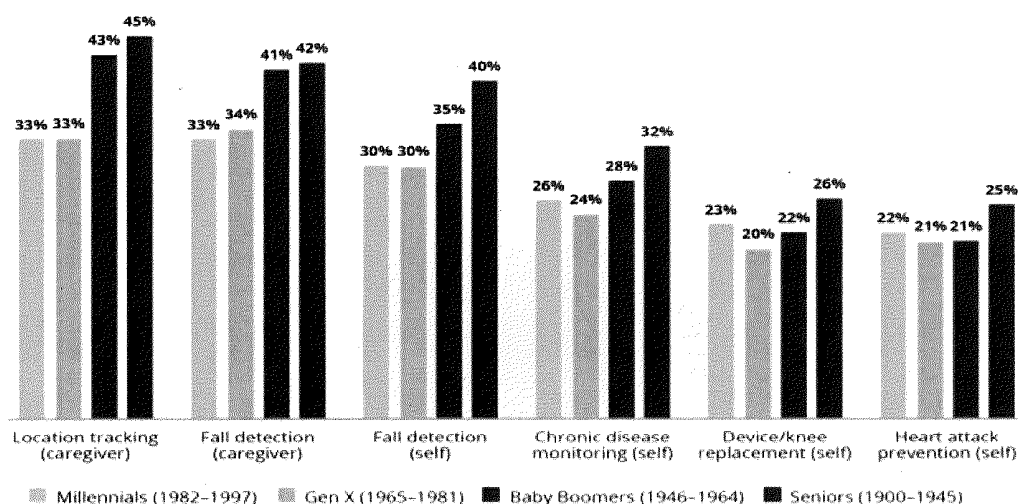
Figure 4-2: Aging in Place Technology Categories

The Personal Emergency Response Systems (PERS) market alone is expected to reach \$3 billion in 2019<sup>4</sup>. PERS device firms include Nortek, MobileHelp Smart, and TruSense. Modified interface solutions for older adults are available from GreatCall (acquired by Best Buy) and GrandPad. Wearables, which include health-related sensors, began to take the stage in 2017 and early 2018,

including UnaliWear, Clairvoyant Networks, and MyNotifi. Health and wellness solutions include Kardia Mobile for EKG, Misfit Vapor smartwatch for sleep tracking, and PillDrillHub, AdhereTech, and MediSafe for managing medications. Voice-first interfaces such as the Alexa or Google Assistant provide hands-free in-home engagement. The CareCoach puppy and Hasbro's Companion Pets focus on providing companionship for and serving the elderly. These solutions represent a very small fraction of the overall fast-growing market.

We find it interesting that older adults and Baby Boomers are more likely to use sensors and other passive technologies than younger generations (see figure 4-3).

The number of technology vendors and solution options available is enormous, complex, and ever-evolving. It has become confusing to navigate for older adults, their families, and caregivers. The landscape is highly siloed, solution sets can be very costly, adoption is difficult, integration is challenging (if not impossible in most cases), and privacy issues present very legitimate concerns.



Source: Deloitte 2016 Survey of US Health Care Consumers.

Note: Chart shows respondents who are likely to use the technology, where "likely" is defined as answering "4" or "5" on a five-point scale in which "1" is "not at all likely" and "5" is "extremely likely."

Graphic: Deloitte University Press | DUPress.com

Figure 4-3: Bar chart illustrating use of six health technologies used by four generational segments.

<sup>4</sup> <https://www.ageinplacetech.com/files/aip/Market%20Overview%202018%20Final%2003-14-2018.pdf>



## Chapter 4 TECHNOLOGY

### 4.3 THE FINALIST PHASE—ENGAGEMENT, RESEARCH, AND PILOT

During the finalist phase, we:

- consulted with residents during community engagement to discover their experiences, needs and concerns associated with technology
- researched and evaluated existing technologies and solutions
- implemented a pilot project in the homes of five residents (described in Chapter 6—Engagement)
- defined a vision and plans for our Connected Technology Framework—The VILLAGE Platform

#### 4.3.1 Requirements Derived from Community Engagement

We discovered a broad set of older adult resident needs during our community engagement initiatives (see Chapter 6 - Engagement). From a technology implementation perspective, we categorize these needs as follows:

- Tech for **convenience**, focused improving experiences with day-to-day tasks and addressing challenges associated with cognitive and physical decline.
- Tech for **safety**, addressing challenges associated falls, water overflow, air quality, etc.
- Tech for **social connectedness and engagement**, focused on facilitating community interactions using digital channels and addressing challenges with social isolation.

Through discussions with the community as well as with our university research partners, we discovered how critical it is for our project to deliver **core solutions that offer simple and convenient user experiences with device interactions that are highly-adapted to older adults** and their life-style, both **at home** and **on the go**. These could include the following:

- **Sensors** and other passive devices and technologies
- **Voice and conversational assistants** offering a dialog-based approach
- **Touch interfaces** such as tablets, smartphones, and wearables which are easy to use, intuitive to operate, and that cover a wide range of needs
- **Wearables**, such as smartwatches—which are preferred to pendants—that integrate nicely into daily living and that offer a wide range of features
- **Smart automation**, at home or on the go, providing assistance based on intelligent situational analysis (e.g., using data science, AI, etc.), device integration, configurable workflows triggering alerts, actions, responses
- **Seamless integrations** across devices and to the City, community, and partners

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### 4.3.2 Research and Evaluation of Existing Technology Solutions

We researched and evaluated a number of existing technology vendors and solutions during the finalist phase that might have fit our older adult residents' expressed needs, either as core or satellite solutions. The following table highlights many of the existing technology solutions we researched and evaluated.

Vendor/solution	Description
Essence Care@Home™ Enhanced Telecare Services Platform	An Aging-in-Place product suite that offers a seamless health monitoring experience, allowing independence for older adults and peace of mind to their loved ones. <a href="https://www.essence-grp.com/smart-care">https://www.essence-grp.com/smart-care</a>
InteliCare	Based on sensors, the InteliCare solution is designed to support people to remain in an independent living environment for longer, whether this be within their own home, a retirement village or in an aged care facility. <a href="http://intelicare.com.au/">http://intelicare.com.au/</a>
Aerial	Aerial Technologies uses artificial intelligence to analyze disruptions in WiFi networks, extract data, and ultimately give meaning to motion (including fall detection), without requiring additional hardware, wearables or cameras. <a href="https://www.aerial.ai/">https://www.aerial.ai/</a>
Elemental Core	A social prescription platform based in the UK offering Health Risk Analysis, Social Prescription Generation, Health Impact Measurement, Calendar, Attendance Tracking, Reports, Campaigns, and more. <a href="https://elementalsoftware.co/platform/">https://elementalsoftware.co/platform/</a>
Laipac Look Watch	An elegant, standalone, and feature-rich IoT smartwatch for safety, health and wellness. <a href="https://www.laipac.com/smartwatch.html">https://www.laipac.com/smartwatch.html</a>
Routinify WellAssist™	Tablet and IoT sensor-based solution providing for an environment of Adaptive Routines™ to create and reinforce positive habits with the goal of improving wellness, safety, social and mental engagement, and security. <a href="https://www.routinify.com/">https://www.routinify.com/</a>
ElliQ	An AI driven social companion robot aimed at keeping older adults sharp, connected and engaged. CES 2018 Best of Innovation Winner. <a href="https://elliq.com">https://elliq.com</a>
Elizzbot	On-demand Smart Chatbot for Family Caregivers. <a href="https://elizz.com/landing-page/elizzbot">https://elizz.com/landing-page/elizzbot</a>
UBIOS	Smart building solution primarily focused on preventing water damage via sensors. <a href="https://www.ubios.ai/">https://www.ubios.ai/</a>
Amazon Echo and Alexa	Smart speaker and voice-controlled intelligent personal assistant service by Amazon. <a href="https://developer.amazon.com/alexa">https://developer.amazon.com/alexa</a>

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Vendor/solution	Description
Apple Watch	Smartwatch by Apple Inc. It incorporates fitness tracking and health-oriented capabilities with integration with iOS and other Apple products and services. <a href="https://www.apple.com/healthcare/apple-watch/">https://www.apple.com/healthcare/apple-watch/</a>
Université de Sherbrooke DOMUS laboratory solution (DOMUS)	The Université de Sherbrooke DOMUS laboratory developed a smart home solution for older adults primarily based passive sensors and open technologies for research purposes. <a href="https://www.usherbrooke.ca/domus/en/">https://www.usherbrooke.ca/domus/en/</a>

We considered and evaluated solutions according to our Technology Evaluation Criteria for The VILLAGE Initiative, which is covered in the next section.

### 4.3.3 Technology Evaluation Criteria for The VILLAGE Initiative

We have a responsibility to deliver simple, safe, private, and affordable solutions to our community. Given the high number of characteristics that any individual solution and vendor might have, and based on what we learned in community engagement combined with our market research, we developed our definition of **Technology Evaluation Criteria for The VILLAGE Initiative**:

Category	Evaluation Criteria
Relevance	<ul style="list-style-type: none"> <li>Is the solution's feature and capability set relevant to older adults?</li> <li>Was the solution developed for a broader population and, if so, does it fit older adults?</li> </ul>
Readiness	<ul style="list-style-type: none"> <li>Where is the solution in the readiness and maturity lifecycle?</li> <li>How much of it is ready to deploy?</li> <li>Is the solution proven with real-world deployments?</li> </ul>
Simplicity	<ul style="list-style-type: none"> <li>Is the solution simple and intuitive to use by older adults?</li> </ul>
Adaptability	<ul style="list-style-type: none"> <li>Is the solution configurable to meet individual older adult needs?</li> <li>Does is the solution extensible by outside parties to meet key older adult requirements?</li> </ul>
Smartness	<ul style="list-style-type: none"> <li>Is the solution smart (if applicable), providing intelligent assistance to the user?</li> </ul>
Privacy	<ul style="list-style-type: none"> <li>How does the solution manage private data?</li> <li>Where does the vendor reside?</li> <li>Where does data reside?</li> <li>Is the data shared with partners?</li> <li>Is the solution transparent enough for a third party to validate data management and flow?</li> </ul>

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Category	Evaluation Criteria
Security	<ul style="list-style-type: none"> <li>Does the solution implement relevant best practices around security (authorization, encryption, etc.)?</li> </ul>
Compliance	<ul style="list-style-type: none"> <li>Does the solution comply with applicable standards and certifications?</li> </ul>
Interoperability	<ul style="list-style-type: none"> <li>Does the solution provide adequate and sufficient interfaces for interoperability with other systems (data integration, UI integration, etc.)?</li> <li>Are there any limitations that would prevent the solution from being integrated with our partner ecosystem today or in the future (health-care, research, or other)?</li> </ul>
Manageability	<ul style="list-style-type: none"> <li>Are heavy services needed to deploy and implement the solution? If so, what are the required skillsets and where could they be sourced from?</li> <li>Is the solution itself difficult to implement and manage/monitor/maintain over time?</li> </ul>
Replicability	<ul style="list-style-type: none"> <li>Are there any limitations (geographic or other) that would prevent the solution from being deployed to other cities?</li> </ul>
Sustainability	<ul style="list-style-type: none"> <li>Does the vendor have strong financial backing?</li> <li>How would the solution adapt to technological change?</li> </ul>
Scalability	<ul style="list-style-type: none"> <li>Are there any limitations that would prevent the solution from scaling to thousands or even millions of users?</li> </ul>
Affordability	<ul style="list-style-type: none"> <li>Is the solution affordable for older adults across varying income categories?</li> </ul>

We evaluated the vendors and solutions using this criteria. We retained solutions that satisfactorily fit a sufficient number of our criteria and implemented them in our pilot project (described below). This included the DOMUS solution and the Laipac Look Watch. We added and integrated Amazon Echo to test voice assistance.

Our technology evaluation criteria would be used to vet solutions in our full program implementation of The VILLAGE Initiative, giving our residents confidence that we are taking a holistic, safe, and efficient approach that has their best interests in mind.

## Chapter 4 TECHNOLOGY

### 4.3.4 Our Pilot Project

In January 2019, we launched a 4-month pilot project with five older adult participants living in Côte Saint-Luc (details on our subjects are covered in Chapter 6—Engagement). We used technology solutions that sufficiently satisfied our above-mentioned Technology Evaluation Criteria for The VILLAGE Initiative. The goals of our pilot project were to begin experiencing and testing the following:

- resident interviews for needs assessment
- at-home installation of technology
- resident acceptance of technology
- solution monitoring and results
- resident feedback

We implemented the following technology:

- The DOMUS smart home solution (from Université de Sherbrooke) with connected Amazon Echo (Alexa)
- The Laipac Look Watch

#### 4.3.4.1 The DOMUS Smart Home Solution

Since 2002, the DOMUS (DOMotics at the Université de Sherbrooke) laboratory has been studying cognitive assistance, medical monitoring and tele-vigilance for people with cognitive disorders. The results of the research performed at DOMUS are applicable to people with cognitive deficits due particularly to head trauma, schizophrenia, Alzheimer's disease and cognitive impairment.

Based on their extensive expertise with advanced cases of cognitive decline, DOMUS has developed over 16 years a standard approach for older adult research in Quebec. To support their work, they have developed a smart-home-for-older adults technology platform using **open technologies**. The technology largely consists of passive sensors that integrate well into an older adult's every-day living. The technology is mature and setup only takes a few hours per home, which in large part is why we selected it. Also, DOMUS is university research lab, which gave us the confidence that privacy and subject consent were being taken very seriously.

In the DOMUS solution, small passive sensors (e.g., motion, water, door, drawer, appliance, etc.) capture and send raw activity data to a small computing hub in the home. The hub analyzes it, understands it, makes decisions, and produces actions or responses. The hub also sends data to a configured server to record activity, assemble activity patterns, and integrate with external systems.

With the DOMUS solution, a bed pressure sensor could detect an older adult getting up at night and trigger a response, such as turning on the bedroom lights, which reduces the risk of injury. A water sensor in the bathroom would detect whether the faucet was turned on, and generate a reminder in case the older adult forgets to brush their teeth within a set time. These are just some of the many ways technology can be used.

The DOMUS solution is based on open technologies, including openHAB as a controller for the home hub—typically running on a very low-cost Raspberry Pi. It also supports smart home data communication and interchange protocols and standards such as MQTT, ZigBee, Z-Wave, which makes the architecture very attractive from an interoperability, extensibility, transparency, privacy, and affordability perspectives.

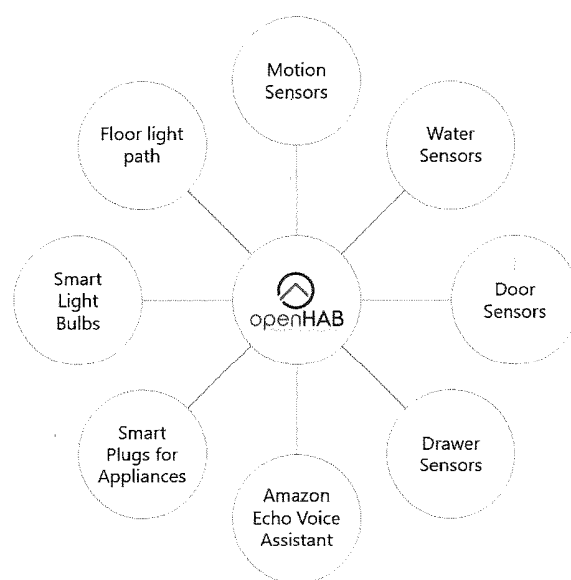


Figure 4-4: Chart showing eight examples of sensors or smart technology that connected with the openHAB-based home hub during our pilot.



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During our pilot project, we installed low-cost motions sensors (Fibaro), water sensors, door and drawer sensors (Fibaro), smart plugs for appliances (Aeon Labs), smart lightbulbs (Philips Hue), and a floor light path (Philips Hue). We also installed one Amazon Echo unit per home to enable participants to use voice commands to operate lights (e.g., “Alexa, Lights On”) and to access information and entertainment, such as news, weather, and music.



Figure 4-5: Photos of the smart device installation in a pilot participant's home.

The DOMUS solution experiment also gave us a chance to experience the benefits of Augmented Reality (AR). Using Microsoft HoloLens—which is a virtual reality (VR) headset with transparent lenses for an augmented reality—we were able to capture and generate the map of a home or apartment that includes placement of and activity from smart devices. The approach offers great capabilities for remote monitoring and troubleshooting.

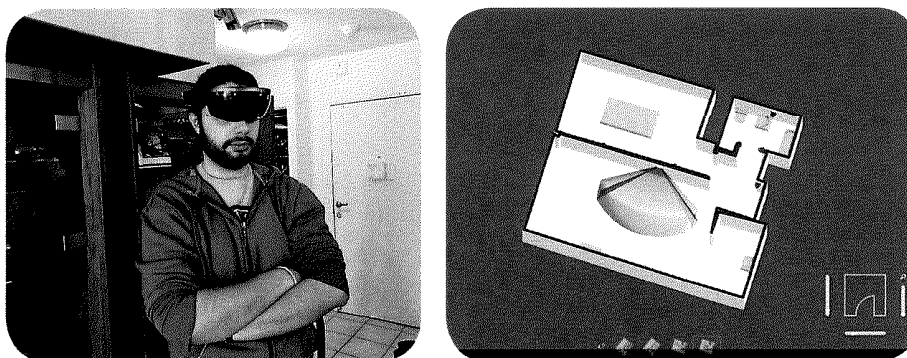


Figure 4-6: Photos of the HoloLens capture and generated map of pilot participant's home.

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### 4.3.4.2 Laipac Look Watch

In addition to the DOMUS smart home solution, we also implemented the Laipac Look Watch, which is an esthetically-pleasing, full-featured Android-based IoT smartwatch. Core features for older adults include tracking and monitoring, geofencing entry and exit alerts, heart rate monitoring, fall detection, SOS button, check-in feature, watch removal alert, two-way voice communication, and more.

We configured and trained pilot participants on how to use the watch. In the event of a fall or after manually pressing the SOS button, the watch would automatically alert family members, friends, or project volunteers. We used the Look Watch's backend software to deploy configurations (e.g, contacts, reminders, etc.) and track pilot participant activity, including any detected incidents.

### 4.3.4.3 Pilot Project Results

Our pilot project is scheduled to run until May 1, 2019. At the time of this writing, we are able to report results based on two months of activity in collaboration with our research partners. On an aggregate basis (to protect privacy), our pilot system generated activity reports for us and pilot participants to learn from. See Appendix for activity reports from the pilot project.



Figure 4-8: Photos of Laipac Look Watch used by pilot participant.

## Chapter 4 TECHNOLOGY

### 4.4 THE VILLAGE PLATFORM

We learned a lot from our community engagement, market research, pilot project, and collaboration with partners. These learnings have led to the development of the vision and architecture for our Connected Technology Framework—**The VILLAGE Platform**. This will help us meet the objective stated in our Challenge Statement.

## INCREASED CONNECTEDNESS

Through The VILLAGE Initiative



Figure 4-9: Graphic illustrating how the VILLAGE Initiative will increase opportunities for connectedness for older adults.



## Chapter 4 TECHNOLOGY

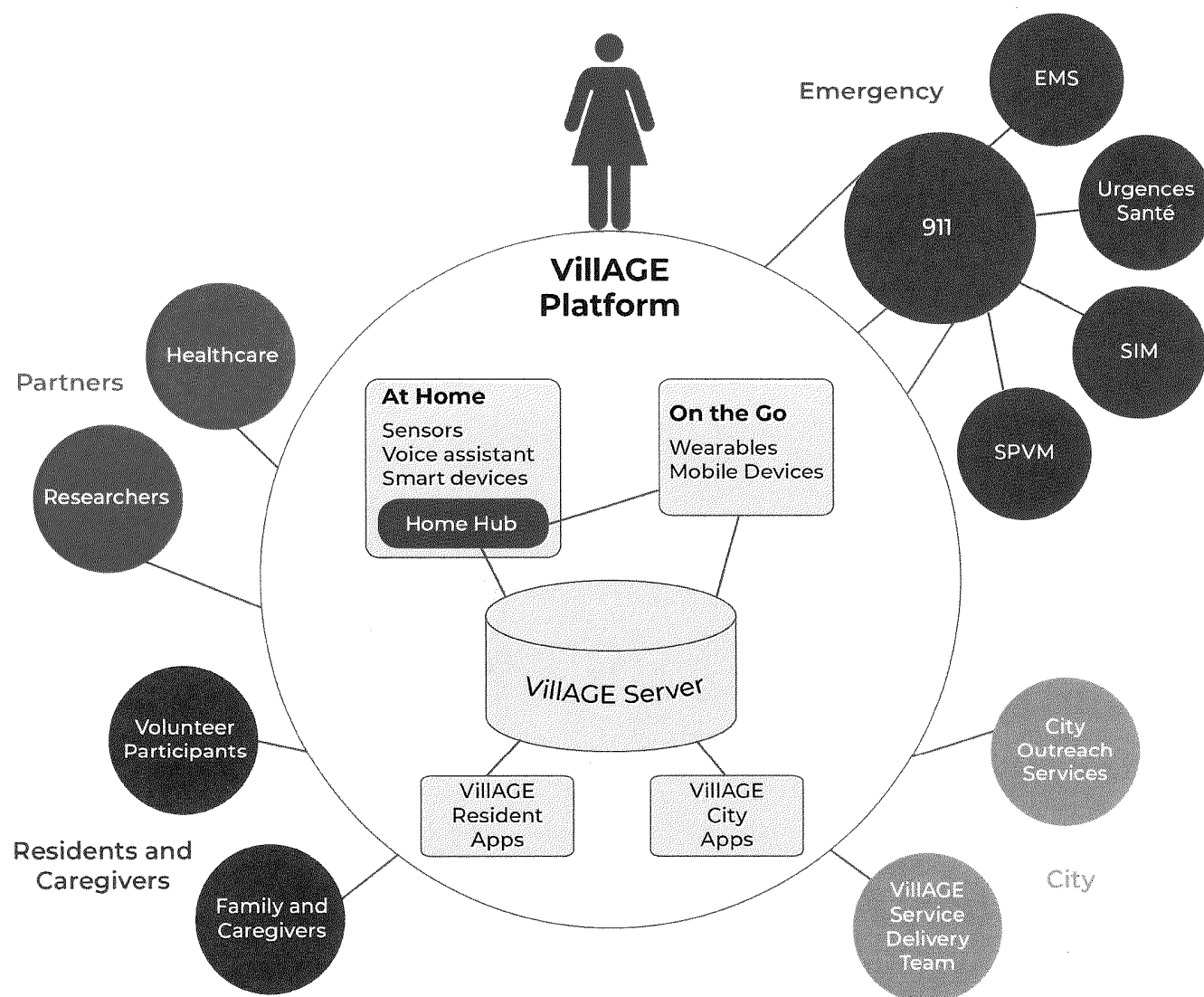


Figure 4-10: The diagram describes the flow of data emanating from alerts generated by the Home Hub and On-the-Go smart devices. Alerts will be transmitted to designated individuals (e.g., family, caregivers, according to the participant's instructions) and/or City services. In the case of an emergency incident, alerts would be sent to 9-1-1 and related services, as well as to residents and caregivers according to the participant's instructions. In the case of soft alerts, the information will flow to the VILLAGE Home Hub and VILLAGE Server, City Outreach Services and Service Delivery teams. Information would be provided to healthcare and research Partners in accordance with participants' consent.

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With a focus on providing more convenience, safety, and social engagement, the VILLAGE Platform will allow older adult residents to access resources for help when they need them. The following table illustrates examples.

Category	Scenarios
Convenience	<ul style="list-style-type: none"> <li>A bed pressure sensor could detect an older adult getting up at night, and turn bedroom lights on automatically, reducing the risk of injury.</li> <li>An older adult could use a voice assistant to get information on the news, weather, or social programming from the city on any given day.</li> </ul>
Safety	<ul style="list-style-type: none"> <li>An older adult could experience a fall. A smart device could detect the incident, and trigger an alert to city services or even better, to someone who might be physically closest in the moment, helping with a faster response.</li> <li>An older adult could leave the stove on. A level of response could be anything from a device that automatically shuts it off, to a call to check in on the situation, making sure the resident and those around her safe and sound.</li> </ul>
Social Connectedness and Engagement	<ul style="list-style-type: none"> <li>An older adult could receive reminders while at home of upcoming activities at the library or local theatre, and a lift could be arranged.</li> <li>An older adult might need help with a challenging task, such as salting a walkway. The older adult could broadcast the request using a voice assistant and a nearby neighbour who is connected using the VILLAGE App, could receive and fulfill the request.</li> </ul>

### 4.4.1 Platform Architecture

Our guiding architectural principles for The VILLAGE Platform are the following:

- Open technologies
  - Core system based on open technologies, favouring transparency, extensibility, future-proofing, affordability, and replicability
  - Large developer community, reducing the risk of being short on resources
- Great experiences at home at on the go
  - Easy-to-use technology solutions wherever the resident is that add value to an older adult's daily living, connected to applications for the community and city
- Smart automation
  - Intelligence to assess situations
  - Smart, configurable automation and workflows to process actions and responses
- Interoperability
  - Seamless interoperability and integrations between devices, the city, and partner systems (based on consent)
- Privacy and security
  - Seamless interoperability and integrations between devices, the city, and partner systems (based on consent)

## Chapter 4 TECHNOLOGY

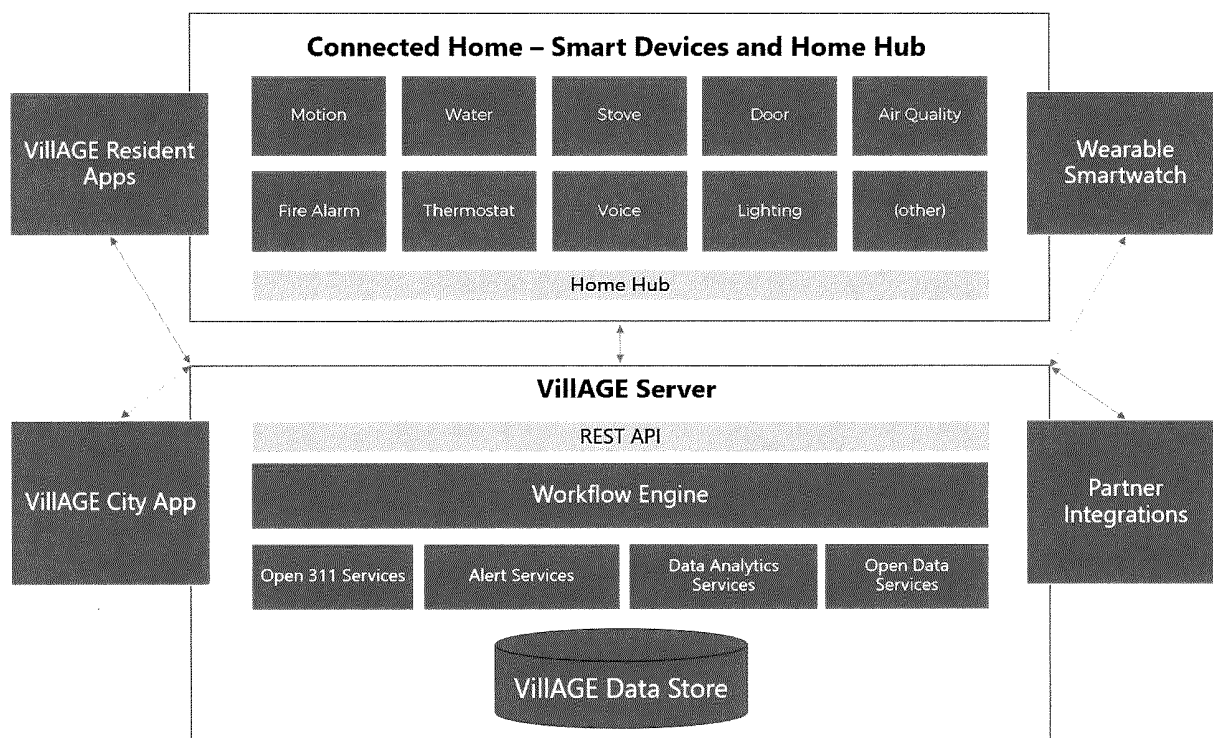


Figure 4-11: Illustration of the VILLAGE Platform Architecture.

## 4.4.1.2 Connected Home—Smart Devices and Home Hub

Similar to what we implemented in our pilot project, various sensors and smart home devices would connect to the Home Hub for events, such as motion detection, water detection, voice commands, or others. These events would be **tracked, understood, processed**, and made to **trigger actions or responses**.

The Home Hub will be based on openHab, a mature, open-source home automation platform that runs on a variety of hardware and is protocol-agnostic. This means it can connect to nearly any home automation hardware on the market today.

The Home Hub will integrate with devices using a wide range of protocol bindings supported by

openHab, including but not limited to MQTT, Zig-Bee, and Z-Wave. The Home Hub will also include or integrate with a reasoning or decision-making engine, which will be based on simple decision trees, ontological rules (OWL), and/or more advanced data science- or AI-based framework such as TensorFlow, which is an open source machine learning framework, based on requirements for “direct vs nuanced” interpretations of device activity and response requirements. The Home Hub would send information, based on resident consent, to the VILLAGE server for processing, recording, and integrations outside the home.

Given reported privacy issues with popular voice assistants such as Amazon Alexa and Google Home, we would consider implementing an open technology-based solution using Mycroft or Snips.

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### 4.4.1.3 Wearable Smartwatch

We will continue our work with Laipac on their leading-edge Android-based Look Watch to develop it further for older adults and to integrate its core capabilities for older adults (e.g, vitals monitoring, GPS positioning, fall detection, two-way voice calls, etc.) into the VILLAGE Platform.

### 4.4.1.4 VILLAGE Resident Apps

We will implement an older adult-adapted smart home controller app, **The VILLAGE Home Hub Panel App**. Based on HABPanel, openHab's open-source user interface software will allow residents to be able to interact with and monitor their smart home devices using **a single touch interface for all VILLAGE devices** installed in the home. Based on open technology, non-VILLAGE devices (such as a smart TV) could be added to the Hub Panel App as well. The panel solution could be fixed on a wall or could be used on a mobile device, depending on the preference of the older adult.

We will also develop **The VILLAGE Community App**, a simple-to-use app for residents, families, and caregivers. This mobile app will allow them to stay connected to the older adults they care for. The VILLAGE Community App will allow people to "subscribe to" or "follow" events and requests from specific older adults in the community. For example, a volunteer might request to be notified if her older adult neighbour in an apartment two floors down has fallen or needs help with a task.

The VILLAGE Home Hub Panel App and The VILLAGE Community App will include Jitsi, an open source videoconferencing solution. This will facilitate live discussions with other community members. We are also considering **Rasa**, an open source conversational AI platform.

### 4.4.1.5 VILLAGE City Apps, Workflow Engine, and VILLAGE Data Store

City Outreach and Service Delivery teams will use the **VILLAGE City App**, an enterprise application that will manage all backend functions such as:

- Older adult resident registration, profile, and contact management

- Case management
- Device order tracking and system configuration
- Monitoring and service calls

The platform will also include a **Workflow Engine** for server-side processing of older adult activity to produce responses (such as alerts to the right parties).

We will develop the VILLAGE City App and Workflow Engine with JOGET, which is an open-source workflow software, business process management and low-code application platform. Among other database engines, JOGET supports MySQL, an open source database we will use for the **VILLAGE Data Store**.

### 4.4.1.6 REST API

The **VILLAGE Server** will be accessible via a **REST API**, which will be implemented using an open framework such as Node.js, that will cover the totality of our backend services. Together with our JOGET-based workflow engine—which itself generates REST APIs—this will make our system highly interoperable.

### 4.4.1.7 Open311 Services

Open311 systems are used in many cities including Ottawa and Toronto for a wide range of city services including alerting city workers to problems with garbage collection, illegal parking, and vandalism. We will instead use the same concept to trigger emergency services, in-home visits, check-in phone calls, and other interventions.

Open311 Services is our extension to Open311, which is protocol that advertises what services are available and what data is needed to access those services. It is very easy to connect with any mobile device or networked system. It typically identifies who is requesting a service and where they are located using GPS or other geospatial data.

Our system will leverage JOGET to create an Open 311 system. Open311 SDK is a REST API standard that has been used throughout Europe and parts of the US to integrate smart city services with a building-block approach.

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### 4.4.1.8 Open Data

Our process model is clearly defined and will be shared openly with the city so that the process is clear and verifiable. Any metrics and KPIs of the project that are not of a private nature will be shared on a VILLAGE dashboard that citizens can use to see summaries of data. Wherever possible, raw data will be available as open data, provided that the sharing of that data constitutes no breach of privacy of any individual or organization.

The nature of our system is to analyze individual needs of older adults, which results in private data. We then prescribe solutions to their specific issues and problems to help them link city, volunteer, family and private services, the services of each, which we clearly explain to each participant. We then use sensors, and IoT devices to establish a custom solution for the individual and set up data monitoring, which is completely private.

While the private nature of the raw data permits us only to publish data that has been anonymized and analyzed, the analytic results shall be open in every regard as long as no person can be recognized by that data or have their privacy violated. Role-based access to the data ensures that all databases have field-level access only to data for which the role is allowed access.

### 4.4.2 Replicability and Scalability

Our system is entirely comprised of technologies that are open source, with inexpensive off-the-shelf devices, capable of being run securely on inexpensive hardware with high security.

The most cost-efficient way to create this system is to divide it into two parts—the Smart Home and the Backend Server and address each separately.

#### 4.4.2.1 Smart Home Solution Replicability and Scalability

The Smart Home can be assembled with three components: a Raspberry Pi running OpenHab as the hub, a Z-Wave Gateway USB stick, and a variety of off-the-shelf sensors and actuators. We list-

ed the devices used in our pilot project. Regardless of the supplier, this basic home system will work as the majority of IoT suppliers support either Z-Wave and Zigbee protocols.

The number of devices one standard openHAB hub can support is in the hundreds, so it is possible to use one hub to support a WiFi-equipped apartment building assuming that the building shares the WiFi throughout and that the system has been tested for Z-Wave range. Typically, Z-Wave gateways need to be within 100 meters of the devices they control.

#### 4.4.2.2 Backend Server Replicability and Scalability

For the backend systems, a standard cluster of high availability virtual machines, behind a high-quality intrusion protection firewall is the most typical route we expect cities would take. A cluster could consist simply of a VM Host, two VMs running either Windows or Linux, a DNS/load balancer and a good firewall.

For a large city, the number of front-end servers and application servers could be increased, using SAN arrays between the virtual machines, and a complementary disaster recovery array to mirror the online systems. A low-cost Linux approach we researched was Antle, which supplies a single box that can run up to 100 Linux Virtual Machines, rendering the deployment of backend services a simple, easy to maintain that any city should be able to afford at under \$2,000 CAD.

#### 4.4.3 Interoperability between the technologies, other technologies, existing community systems and services, and infrastructure

Our system's purpose is all about interoperability with existing systems and community services. The JOGET workflow system will link older adult needs directly to city services, while maintaining compatibility with Open311 systems. It will offer cities the potential to trigger city services based on any identified situation where one or more sensors is used to identify a situation. It may also be

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used in unique ways to accomplish other smart city monitoring services that go beyond the domain of older adults aging in community.

For example, a unique way to configure our system would be to link it to multiple air quality sensors and urban noise level sensors monitored by the artificial intelligence in the domain model to send out alerts to city workers and departments operating in specific sectors of the city. As our technology is based on standard protocols and configured with many options, there is no reason our system could not interoperate with any city system using standard protocols.

### 4.4.4 Accessibility and usability of the technologies to diverse users, residents, and other stakeholders that support their uptake and acceptance

The systems we apply to a specific older adult's home are geared for accessibility that is specific to each older adult. The majority of the system is designed from day one to be as passive as possible and not require any specific actions from a older adult, though elements such as voice-enabled assistance devices would require interaction.

Any interactive device must be chosen for its ability to match the cognitive abilities of the older adult, and over time it is possible that with cognitive decline, a device or interface used today may become unsuitable in the future. The monitoring of that older adult should help us be able to identify when gradual cognitive decline has hit a limit.

Wearable devices must be chosen for their compatibility with our criteria and standards, and at minimum, be able to send messages via MQTT or

REST API via a supported communication channel, such as WiFi.

### 4.4.5.1 How the technologies comply with relevant legislative and regulatory requirements

The VILLAGE Platform will maintain all records on the system in a HIPAA-compliant anonymized format. While the workflow system may require direct knowledge of older adult addresses and personal contact information, no other aspect of the system maintains information that would compromise older adult privacy.

The openHAB hub is an appliance that operates in their home, maintaining their sensor data in a private manner, which is connected to VILLAGE servers via SSL. Operators may access an openHAB device using a secure VPN connection, but only under the direction of the occupant.

As the Workflow Engine is the main system that contains contact information, it is maintained behind a secure firewall with only the Open311 connections public-facing.

We will work with Laipac on data flow from the Look Watch to comply with our privacy practices and storage requirements.

The secure data management policies of the city and those outlined in the Preliminary Privacy Impact Assessment (PPIA) highlights the efforts taken to ensure that data is appropriately managed at all phases of collection, storage, and destruction.

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### 4.5 ROLES AND RESPONSIBILITIES OF PARTNERS

Under the leadership of our organization's CTO for the project, the partners who will collaborate to implement the VILLAGE Platform are:

Partner	Role and responsibilities
Delevante Software	Delevante Software's expertise is in developing cross-platform technology solutions for local communities based on open technologies. Delevante's role will be to lead and implement the platform development.
DOMUS	DOMUS as a research-focused organization will advise on key technology-focused portions of the development.
Concordia University	Concordia as a research-focused organization, which includes the older adult-focused ACT (Aging, Communications, and Technology) project, will advise on the development.
Laipac	Laipac will be responsible the development of the smartwatch solution for the platform.
CIUSSS West-Central	The CIUSSS W-C, as our local healthcare network and partner, will act as an advisor around privacy, technologies for digital health, and interoperability with healthcare systems.

### 4.6 RISKS AND MITIGATION

There are four key cybersecurity risk points in the design of our system. All best practices for disaster recovery, high availability, cybersecurity, privacy and open data will be implemented.

Risk	Mitigation
Home Hub breach	<p>The first risk is the ability for a malicious party to take control over one or more openHAB hubs. If a party were to infiltrate the WiFi connections of a older adult they could attempt to break into the openHAB hub.</p> <p>To minimize this risk, the administrative accounts of the openHAB server have usernames and passwords that are administered offsite, so that the device can only be accessed by accredited VILLAGE system administrators using VPN connections to the older adults WiFi.</p> <p>In general, throughout our system, information on the usernames, passwords, VPN connections and other security information should be stored in a secure password server such as KeePass or Linux password vault and only accessed by VILLAGE system administrators and configuration teams.</p>
Access to raw and logged data	<p>The second risk is the security of the raw data and situational data logs. While this data is by definition anonymous, it has value to the city and information within it could be triangulated with public information to constitute a theft of personal information.</p> <p>For these purposes, data is kept in encrypted databases. Access credentials to the databases is kept in encrypted formats and software which connects to the data uses o-Auth or Apache Shiro. Apache Shiro is a powerful and easy-to-use Java security framework that performs authentication, authorization, cryptography, and session management. With Shiro's easy-to-understand API, you can quickly and easily secure any application—from the smallest mobile applications to the largest web and enterprise applications.</p>



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Risk	Mitigation
Server breach	<p>The third risk is in the server system, which maintains confidential information about each older adult. This system integrates with a database that holds all survey and private information as well as location, address and contact information.</p> <p>This information is not available to the public. It is protected behind our firewall and uses role-based access to the system.</p> <p>The last cybersecurity risk is denial of service attacks, which unfortunately are becoming more prevalent. The most catastrophic would be access to confidential data on individuals in the program, which would be stored in city databases.</p> <p>As a primary policy, at no time will access to older adult data in the server system be accessible to non-VILLAGE approved workers nor available outside our Intranet.</p> <p>The system prevents denial of service attacks through the use of FortiGate firewalls supporting FortiDDOS, which provides Layer 3, 4 and 5 DDOS attack prevention at high speed.</p> <p>CloudFlare is an alternate moderate cost solution that other cities might prefer since they require very little administration.</p>
System downtime and lack of availability	<p>As the number of deployments in homes increases, the overall system available will become a matter of concern. For this reason a high-availability model for the backend servers is key.</p> <p>Virtual machines with a shared SAN (Storage Area Network) are the preferred architecture for ease of administration. Depending on the needs of each city, they may choose from a wide array of virtual hosting and SAN hardware to achieve this.</p> <p>Using load-balancers between clustered machines generally keeps services running at high speed at all times while allowing for virtual machines to be shut down for maintenance without affecting the service provision.</p> <p>For optimal disaster recovery, a second data site that replicates the main system is preferred.</p> <p>On Windows servers, the use of DFS replication (distributed file system) and SQL mirroring will allow multiple virtual machines running Windows Server 2018 to run all required servers in a high availability mode with a load balancer administering the cluster.</p> <p>On Linux servers, following the advice on the Linux-HA project that is most appropriate to select hardware is advised.</p>



## Chapter 5 GOVERNANCE

The VILLAGE Initiative requires an extremely strong governance model for its success and sustainability, and one which puts the right players in the right places at the right time. True to its name, it will take a village of partners and stakeholders to ensure the viability of the project. The Governance Chapter is based around the Organizational Model presented in Chapter 1 (see Figure 1-1). A non-profit organization will be created, which will be governed by a Board and run by a team of senior staff.

There are two main domains around which the VILLAGE Initiative runs: Technology and Social Transformation. While separate, these two domains collaborate closely. Both are fueled by ongoing community engagement with a design-thinking mindset, and service will be delivered in conjunction with a multitude of partners. The technology side is going to be run by a private partner with expertise in the domain, and the social side will be led by a person from the City of Côte Saint-Luc.

### 5.1 GOVERNANCE FRAMEWORK

In order to maximize sustainability and effectively deal with all the governance challenges, the City of Côte Saint-Luc proposes the establishment of a federal non-profit organization (NPO) under the *Canada Not-for-profit Corporations Act*. It would:

- Define, within its articles of Incorporation and its by-laws the various classes of 'members';
- Define the Board size and composition;
- Define members' respective roles, terms, rights, delegations, accountability, limitations and obligations;
- Create a clear and concise mission statement and strategic plan that will be its guiding force;
- Establish a policy framework and operational structure for developing, implementing, reviewing and maintaining the VILLAGE policies and procedures in a form and manner that is consistent with best practice;
- Create governance and management policies;
- Stipulate other criteria that would facilitate funding, stability, growth, flexibility, research, and investment;
- Adopt a policy for data governance and information privacy protection;
- Create a risk management framework which will have a commitment to building a risk management culture in which risks and opportunities are identified and managed effectively;
- Create a legal compliance framework and an accountability framework;
- Establish the controlled entities (partnerships).

Establishing the NPO will enable the VILLAGE Initiative to maximize the strengths of the government, business, and non-profit sectors, while minimizing the obstacles and drawbacks that each presents on their own. When constituting the NPO, the vision and the mission of the VILLAGE Initiative will be outlined. The vision must entail a connection between government innovators and the technological and design community, and the governance must address the framework of that connection, which will be led by its Governing Board, management staff and private partners. The direct responsibility for the VILLAGE Initiative needs to be shifted from the City Council to a NPO Governing Board for several reasons:

- Avoids political interference resulting from the electoral cycle;
- Allows information flow and data governance to be totally segregated from other City information systems and therefore ensures more privacy and controls;
- Allows for multidisciplinary Governing Board composed of variety of members with wide range of expertise who have wealth of knowledge and experience to guide the VILLAGE Initiative;
- The VILLAGE Initiative is too large to become

## Chapter 5 GOVERNANCE

merely a city department. Its scope is to such a scale as to require full attention by a team of people dedicated to it;

- Non-profit organizations are eligible to apply for a variety of grants that municipalities are not;
- A non-profit organization has more freedom and flexibility in terms of procurement and labour relations than municipalities;
- Research and development, particularly in the domain of technology, is far from municipal expertise.

The City, however, has the benefit of public trust and proximity to the population and also has the obligation and duty to comply with all rules governing access to information and privacy protection. The City also creates by-laws, is responsible for the public domain, zoning, and infrastructure, in addition to maintaining important programs and services that are crucial to the success of the VILLAGE Initiative. It is for these reasons that long-term safeguards must be put in place to ensure that the City will maintain some governing control of the NPO, and include clauses in its founding statutes that indicate the following:

- That two members of the Governing Board must be sitting members of the Côte Saint-Luc City Council, and that those seats must be preserved in perpetuity;
- That the budget must be approved by the City of Côte Saint-Luc.

As a result, the new organization will be recognized as a “public body” for the purposes of privacy protection and access to information in accordance with the *Quebec Act respecting Access to documents held by public bodies and the Protection of personal information* and among other duties it will have all the obligations and rights to protect the data, which will be generated by this Initiative.

#### Governing Board

The Governing Board will be made up of nine independent members with a diverse range of expertise, perspectives and knowledge who have a fiduciary obligation to oversee and ensure that

they are in the role to continually assess a variety of risks regarding all elements, including but not limited to: financial reporting, ethics, privacy, technology, health and safety. The Governing Board will be accountable for the oversight of the governance process. It will include the following members:

- 2 sitting members of the Côte Saint-Luc City Council
- 1 Medical/Social
- 1 Research/Academic
- 1 Technology Entrepreneur
- 1 Venture Capitalist
- 1 Resident
- 1 Provincial Representative
- 1 Lawyer/Privacy expert

#### 5.2 MANAGEMENT

The following positions constitute the Management Team.

The NPO will be run by a **Chief Executive Officer (CEO)** who is also responsible for the Social Transformation domain of the VILLAGE Initiative. The CEO reports to the Governing Board, and is the primary link with the Technology Partner (see below), the City of Côte Saint-Luc, all other (non-tech) partners, and the Infrastructure Canada Smart Cities Challenge team. This person is responsible for the leadership and strategic direction of the NPO, its policies, development, marketing, and communications. On the Social Transformation side, this person will innovate and design municipal strategies that enable older adults to thrive, and work with the City of Côte Saint-Luc City Council and staff in order for them to incorporate these ideas and concepts.

A **Chief Financial and Operations Officer (CFO)** will run the organization, its administration, finances, legal and human resources, and fundraising, ensuring a lean management approach. This person develops procedures, implements policies, and ensures that Key Performance Indicators (KPIs) are met. The CFO reports to the CEO.

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**A Director of Community Engagement and Service Delivery** will be responsible for community engagement work and the service delivery design and team. This person will pivot between the technology and social transformation domains, ensuring that the technology is suitable and relevant to the users. The Director will also be responsible for tracking, analyzing, and reporting on outputs and outcomes, and ensuring the quality of the services provided by the VILLAGE Initiative is high and that all of its users maintain their dignity, their information privacy, and are respected as the elders of our society. The Director of Community Engagement and Service Delivery reports to the CEO.

The Management Team will be collectively responsible for:

- Providing and implementing the policies and procedures through which governance occurs within the organization;
- Optimizing the efficiency and effectiveness of the organization;
- Ensuring that the VILLAGE Initiative follows all relevant laws and adheres to a high ethical standard;
- Ensuring that the Technology Partner adheres to all the rules and regulations related to governance, privacy, and sustainability and that it strictly fulfills its contractual obligations;
- Continually engaging in risk assessment and mitigation;
- Working towards ensuring that the VILLAGE Initiative is sustainable and ultimately, transferable;
- Ensuring that the VILLAGE Initiative is a fair employer that supports its diverse staff and allows them to thrive as individuals and as part of a team in an atmosphere of respect and professionalism;
- Ensuring that all staff, partners, and anyone else connected to the VILLAGE Initiative hold true to its mission;
- Gathering data and reporting on all activities on a regular basis to the Governing Board, Infrastructure Canada, and all other parties outlined in the founding charter;
- Data Governance and Information Privacy Protection.

## 5.3 PARTNERS

The ultimate success of the VILLAGE Initiative extends far beyond the NPO. An entire ecosystem of partners, including all levels of government, the research, health and private sectors, community groups, and citizens will collaborate to address the complex and widespread challenges our society faces related to aging.

## 5.3.1 The Technology Partner

The Technology Partner is the primary partner for the VILLAGE Initiative, one essential to its existence. In the Organization Model (see Figure 1-1), the entire technology domain will be provided by a private company, consisting of a consultant who will serve as the Chief Technology Officer (CTO) and his full tech team, in order to develop the platform and do all the research and development, working with partners on the technology side. This company will be the same one with whom the City of Côte Saint-Luc contracted to help create and manage the Final Proposal project, and who was instrumental in developing the VILLAGE Initiative.

The decision to contract out the technology portion of the VILLAGE Initiative was based on the following:

- For-profit companies are run in an agile way, and are able to be extremely flexible.
- Private companies are eligible to receive R&D tax credits from other levels of government.
- The size of the technology team required to create the VILLAGE platform is larger than what the budget allows and the size of the team required will fluctuate. The NPO will not have to allocate resources to manage them.

Delevante has more than 15 years of experience and expertise building large-scale technology solutions across a wide range of sectors including: aerospace, investment finance, pharma, health-care, energy, entertainment, social media, and retail. Today, Delevante's focus, expertise, and pas-

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sion are in building modern technology platforms, based on open technologies, that drive engagement and commerce for local communities, which is philosophically aligned with Côte Saint-Luc's and the VILLAGE Initiative's objectives. Delevante is the creator of the leading-edge mobile-first platform Numnu, a smart connected platform that allows consumers to discover events (festivals, fairs, and more) in their area, engage on-site, place mobile orders, and promote local vendors and products to their networks. Founder and CEO of Delevante is Marc Chriqui, former president of Raymark, a leading global enterprise retail software vendor strategically acquired by US-based Mi9 Retail in 2015. Marc personally and very closely collaborated with Côte Saint-Luc during the Smart Cities Challenge finalist phase as Project Director. Concepts from Marc's expertise around smart and connected retail stores translated well and informed our designs for smart connected solutions for residents' homes and mobile devices.

### 5.3.2 City Partner

We outlined the special relationship that the VILLAGE Initiative has with the City in the Governance Framework section of this chapter. Further information needs to be added, however, as the Initiative has a special and symbiotic relationship with the City. So important is this initiative to the residents of Côte Saint-Luc that the City is providing many in-kind donations, of space, resources, and services, especially in the first few years. The residents will need to have the comfort that the City is still behind the Initiative, even if it is not directly running it. This will be achieved through several means:

- City staff familiar to residents will have key and public roles in this Initiative;
- Community engagement will be done in conjunction with the City, in city spaces;
- Many services offered by the VILLAGE Initiative, such as technology education and training for older adults, will be given by the City;
- Important activities, such as making Côte Saint-Luc an officially Age-Friendly Community will be done collaboratively;
- City departments such as the Library, Parks and Recreation, and Public Safety will co-develop programs and service with the Initiative;
- The *Programme d'adaptation de domicile* (PAD) program will continue to be administered through the City, and lobbying to modify it to include technology will be done by the municipality as well;
- Cross-promotion will occur continuously;
- The City will collaborate with all VILLAGE research partners as a 'Living Lab'.

### 5.3.3 Other Partners

The VILLAGE Initiative has, as part of its organizational model, relationships with research partners in both the technology and social domains. The goal is to continue working with valued partners to fulfill the vision set out in this proposal, and also to co-create with them and expand knowledge that will benefit society. See Appendix for the letters of support from our partners, which outline the nature of future collaboration. Our partners include the following:

#### RESEARCH PARTNERS

The VILLAGE Initiative has, as part of its organizational model, relationships with research partners in both the technology and social domains. The goal is to continue working with valued partners to fulfill the vision set out in this proposal, and also to co-create with them and expand knowledge that will benefit society. Our partners have provided letters of support, which outline the nature of future collaboration.

**Université de Montréal/Institut Universitaire de Gériatrie de Montréal:** Our existing collaborators who have accompanied us so far in the community engagement and pilot projects, are committed to work with us to co-develop solutions and measure their social, human, and economic impacts. They will continue to provide the VILLAGE Initiative with their expertise, time and resources in order to implement and measure performance outcomes for research and future development of smart solutions for older adults. They will also help secure funding and help develop an implementa-

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tion guide so that other cities may benefit from the VILLAGE Initiative.

« Cette co-construction ardemment souhaitée par la Ville, et l'écosystème créé autour du projet, m'amènent à considérer la Ville comme un véritable laboratoire vivant; une infrastructure sociale et communautaire qui permettra l'émergence d'innovations par et pour les résidents. »

—**Nathalie Bier**, erg., PhD. Professeure agrégée, École de réadaptation, Faculté de médecine, Université de Montréal

#### Université de Sherbrooke/Laboratoire DOMUS:

This is a university research lab, which has developed smart-home-for-seniors technology platform using open technologies. They were our primary partner in the pilot project. They will continue to develop interdisciplinary solutions and lend their expertise to the VILLAGE Initiative, helping to introduce new technologies to older adults in an effort to reduce social isolation.

« Le laboratoire DOMUS est donc prêt à soutenir ce projet en engageant son expertise dans une démarche interdisciplinaire pour cerner les enjeux, élaborer des solutions appropriées et respectueuses et tester ces innovations sociales auprès des aînés. »

—**Hélène Pigot**, Professeure titulaire en informatique, Chercheuse au Laboratoire DOMUS et **Sylvain Giroux**, Professeur titulaire en informatique, Directeur du Laboratoire DOMUS

**Concordia University:** With their EngAGE and PERFORM centres, Concordia has undertaken to provide expertise in the development of programs, services and policy-development related to older adults.

« From prevention to big data insights to arts-based therapies, our researchers are harnessing the potential of treatments and technologies for better health for older adults and facilitating next-generation solutions to pressing issues facing cities around health and well-being. »

—**Christophe Guy**, VP, Research & Graduate Studies, Concordia University

**Age-WELL** is Canada's technology and aging network dedicated to the creation of technologies and services that benefit older adults and caregivers. They see the VILLAGE Initiative as advancing their mission to develop a community of researchers, older adults, caregivers, partners and future leaders that accelerates the delivery of technology-based solutions that make a meaningful difference in the lives of Canadians.

« Our commitment to your proposal will be through providing access to our members, researchers, and stakeholders, and by providing your group with consultation on the various issues related to emerging technologies and smart cities. »

—**Alex Mihailidis**, PhD PEng, Scientific Director & CEO, AGE-WELL NCE Inc.

#### HEALTH PARTNERS

Working closely with the CIUSSS West Central, the Ministère de la Santé et des Services sociaux du Québec (MSSS), and other leading experts during the finalist phase, we learned that healthcare will increasingly become decentralized. Dependencies on hospitals will be reduced. The point of care will be wherever the patient is—whether at home, in community, or elsewhere. Digital health will continue to drive the way care is delivered and we will continue to see an increasing focus on prevention and prediction with the help of new and advanced technologies.

We will work with our healthcare partners through the VILLAGE Initiative to lay the digital foundation in which smart cities and healthcare providers could deliver better care to the home and improve outcomes along the continuum of care. This would not only improve care in the future, but could for the first time actually begin to identify and pre-empt clinical problems before people require treatment.

**Ministère de la Santé et des Services sociaux (MSSS), Gouvernement du Québec:** The VILLAGE Initiative is very much aligned with the orientations of the provincial health ministry, especially as relates to aging in place, and they fully support the project and will have a seat on the Governing Board. As they believe that this initiative will have

## Chapter 5 GOVERNANCE

concrete and positive effects on the well-being of older adults, they have expressed, in their letter of support, a desire to discuss a framework for sustainability.

« Votre projet s'inscrit en cohérence avec les orientations ministérielles du réseau de services intégrés pour les personnes âgées et est intégrateur des divers services qui sont offerts dans une communauté impliquée activement auprès de ses aînés. »

—**Natalie Rosebush**, Directrice générale adjointe des services sociaux et des services aux aînés, Ministère de la Santé et des Services sociaux du Québec

**Integrated Health and Social Services University Network for West-Central (CIUSS West-Central Montreal):** Our primary health and social services partner would act in an advisory role for our program governance, as well as information privacy protection and measuring outcomes. The alignment of our respective technological roadmaps and data integration would enable us to co-develop better patient care. They are most interested in partnering for the delivery of digital health on the VILLAGE platform. If the future of care is where the patient is, then the first ones to get it will be the VILLAGE participants on the platform.

« Côte Saint-Luc's VILLAGE Initiative would lay the digital foundation in which smart cities and healthcare providers could partner to deliver better patient care to the home and improve outcomes along the continuum of care. »

—**Dr. Lawrence Rosenberg**, President and CEO, CIUSSS du Centre-Ouest-de-l'Île-de-Montréal | Integrated Health and Social Services University Network for West-Central Montreal

## INDUSTRY PARTNERS

**MEDTEQ:** This industrial Consortium for Research and Innovation in Medical Technologies has committed to support the VILLAGE Initiative through several forms of contribution: in-kind expertise via MEDTEQ staff and resources for the structuring of eligible collaborative projects as well as project management support; financial support from

MEDTEQ for collaborative projects with industry which can represent a direct contribution of up to \$500,000 per project year over three years (maximum \$1.5M per approved project) and direct financing in accordance with the consortium's current program rules (maximum of \$1M for the MEDTEQ tranche in a syndicated round of financing).

« Our belief is that Canadian talents and entrepreneurs in partnership with our public health care system and communities, can develop and implement substantial cost savings solutions for the well-being and health of seniors and their families. »

—**Diane Côté**, CEO MEDTEQ Consortium

**Laipac Technology Inc.:** Based in Richmond, Ontario, Laipac is an industry leader in mobile health-care solutions, developing Internet of Things (IoT) products since 1999 that have been exported to more than 100 countries. We worked with Laipac during our pilot project around their feature-rich Look Watch product. In a complete implementation and rollout of the VILLAGE Initiative, we would continue our collaboration towards creating a seamlessly integrated smartwatch for older adults offering more convenience, safety, and social connectedness.

« Should the city be a winner in the Smart Cities Challenge, we would welcome the opportunity to collaborate further on a broader rollout that would meet your program vision and resident needs. »

—**Diego Lai**, CEO, Laipac Technology Inc.

## ECONOMIC DEVELOPMENT PARTNERS

**Agence Ometz and PME Centre West Montreal** are two organizations which promote employment and entrepreneurship and which have committed to work in close collaboration with the VILLAGE Initiative. As more fully described in Chapter 9, these agencies provide advice and guidance for business start-ups and offer services to entrepreneurs and job seekers.

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## COMMUNITY PARTNERS

**Cummings Centre, St. Patrick's Square, and B'Nai Brith Canada:** There are at least three subsidized residences for independent older adults who have indicated serious interest in collaborating with this Initiative: Caldwell Residences, B'nai Brith and St. Patrick Square. St. Patrick's has already proven to be an invaluable partner in the pilot project and will be again during implementation. They are in-

vesting in smart building technology in partnership with the City and its residents. By deploying the VILLAGE devices into a few of the older adults' apartments in each building in collaboration with the building's administration, we will be able to measure performance and success in a controlled trusted environment, which will allow residents to remain in their homes longer without having to go to assisted care.

## 5.4 RISKS AND MITIGATION

The risks related to governance are outlined in the table below.

Risks	Mitigation Plan
Potential for ambiguity of roles and responsibilities	<p>Sign written agreement outlining the relationship between the NPO and the City, including financial arrangements, in-kind donations, human resource allocation, service harmonization and any other shared issues.</p> <p>Develop comprehensive guidelines on roles and responsibilities within the NPO for each level including:</p> <ul style="list-style-type: none"> <li>• Level and form of engagement of different actors.</li> <li>• Delegation of authority.</li> <li>• Scope of operation and the origin of funding.</li> <li>• Relationship with each other and other partners or stakeholders.</li> <li>• Level of assistance and support with each other.</li> <li>• Explicit mandates of each.</li> <li>• Partnership agreements and scope.</li> <li>• RACI Chart.</li> </ul> <p>Create codes of conduct and ethics for the Governing Board and employees.</p>
Outsourcing technology development	Clearly define in a contract agreement the scope, deliverables and timeline for the development of the technology platform, including adherence to privacy policies and procedures, and relationships with other partners.
Human Resources—Finding suitable candidates, start-up very tied to specific people, creating organizational culture	<ul style="list-style-type: none"> <li>• Build a Human Resource Management Plan that is integrated with decision-making throughout the organization and which has built-in succession-planning.</li> <li>• Develop clear job descriptions with performance outcomes that are aligned to the values and mission of the organization and which incorporate diversity and inclusion.</li> <li>• Create a recruitment strategy to find the best candidates for each position.</li> <li>• Create an organizational chart.</li> <li>• Develop an onboarding program.</li> <li>• Develop a training program to fill skill gaps for both management and employees.</li> <li>• Develop a performance appraisal and recognition program.</li> <li>• Include a liability insurance plan to cover for long-term management absences.</li> </ul>
Cash Flow and Collection cycles based on Milestones—continuity breakdown	Clearly define outcome performance agreement per project with the Government of Canada to ensure continuity of projects and outcomes.
Time Escalation on Deliverables	Chart starting and projected delivery date for each activity output on a development chart to measure, control and manage possible slips and adjust when needed.

## Chapter 6 ENGAGEMENT

This chapter is a summary of what we have learned through community engagement activities to date and our Community Engagement Plan for the next phase of this project. We will also highlight the opportunities for ongoing conversation with our residents and other important stakeholders, which will help define and shape the VILLAGE Initiative.

During our community engagement phase, we sought feedback from seniors, caregivers, and other stakeholders in the community in three main areas:

- The needs, worries and challenges they experience as they or their loved one age in community.
- How they view the role of smart technologies to help them age in community.
- How they view the role of the City in supporting aging in community.

Focus groups, public consultations, advisory committee meetings, and a pilot project have been vital. They have created a common understanding and a space for ongoing dialogue with residents. We gathered insights on current issues that are important to them and their families related to aging in community. Residents liked the open, two-way dialogue. They proposed ideas and came up with collective solutions. The meetings also confirmed for us the real needs and desired outcomes of our residents.

During the next phase of the VILLAGE Initiative, we will make efforts to expand the number and diversity of the voices providing guidance in the development of the VILLAGE Initiative.

### 6.1 SUMMARY OF RESULTS OF COMMUNITY ENGAGEMENT ACTIVITIES TO DATE

We worked with the following groups and organizations:

- Côte Saint-Luc programs and services including the public library, Aquatic and Community Centre (ACC), Emergency Medical Services EMS), volunteer Citizens on Patrol (vCOP), volunteers
- Research partners from the Montreal Geriatric Institute
- St. Patrick Square pre-retirement community
- Cummings Centre

We conducted the following community engagement activities, which have driven the direction of this proposal:

- Community engagement planning and visioning
- Information sessions
- Focus groups/action research
- In-person public consultation

- Online public consultation
- Senior advisory group meetings
- Project website
- Pilot project

Several key themes emerged through this engagement effort. They are summarized here with explanations in the next sections:

- Older adults would prefer to age in place, yet face a variety of challenges to doing so.
- Smart technology designed for convenience, safety and social engagement can be used to help give older adults and their caregivers peace of mind when aging in place.
- Technology needs to be simple to use, affordable, older-adult-friendly, and customizable.
- While privacy concerns did emerge, most people expressed that they would let go of some privacy in order to have more security as long as privacy was protected.
- Residents expressed a strong level of confidence and trust in the City of Côte Saint-Luc.



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- There is an infrastructure already in place in the City of Côte Saint-Luc for this initiative to work.
- Don't forget the human element—it's not about connecting people to technology but about connecting people to people using technology.

### 6.2 COMMUNITY ENGAGEMENT VISIONING

Between June 2018 and September 2018, the VILLAGE Initiative team clarified the community engagement issue, developed principles for community engagement and defined the community to be engaged.

#### 6.2.1 Community Engagement Principles

**Inclusivity:** The City encourages participation by those who will be affected by a decision. We want people to feel agency, to enable them to make a meaningful contribution to their community to matter what their age or background.

- **Connectivity:** The City aims to create networks of community members, linking people from different backgrounds to the City and to each other.
- **Coordinated approach:** The City coordinates community engagement activities to use resources effectively. Residents and community groups are our partners.

- **Open and timely communication:** The City provides information that is timely, accurate, accessible, easily understood and balanced. Public engagement processes will be designed to involve the appropriate people at the appropriate time in the appropriate way.
- **Transparency and accountability:** The City explains its governance processes to residents and ensures that information is readily available to the public.
- **Change and continual improvement:** As technology and circumstances changes, so too will the City. Continual feedback from residents will ensure that the City evolves with them and their needs.

#### 6.2.2 Understanding the Community

While older adults are the target population for this Smart Cities Challenge initiative, many other groups of people will be affected by it as well including families, caregivers, neighbours, future older adults, residences, partners, health care professionals, city staff, and city councillors. Each of these groups have their own needs and concerns and we wanted to ensure they each had the opportunity to participate in community engagement activities. Engagement efforts were conducted with a focus on equity to connect with the broadest cross-section of the City of Côte Saint-Luc population, including focusing on reaching under-represented people.

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### 6.3 COMMUNITY ENGAGEMENT PLAN

In September and October 2018, we developed a Community Engagement Plan with scope, timelines, locations, costs, and responsibilities to ensure that residents were given opportunities for various levels of participation, from receiving information, to being consulted, to collaborating and active participation. Below is a summary.

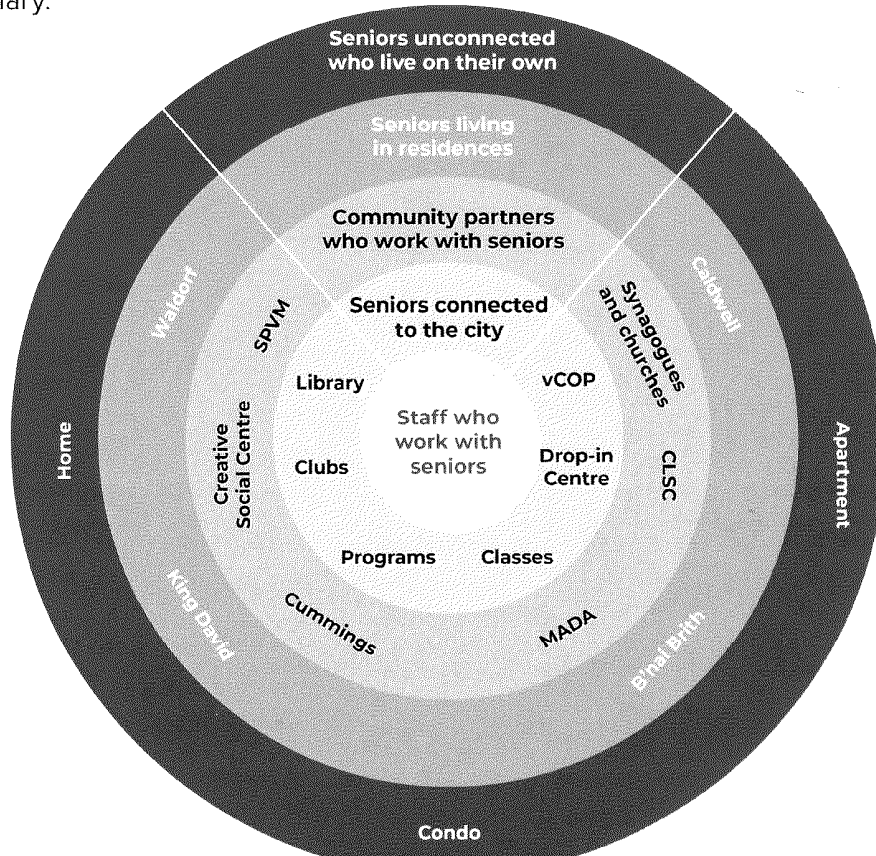


Figure 6-1: Illustration showing the concentric circles of connectedness to the City, from most connected in the inner circles, to least connected in the outer circles.

### Increasing Levels of Community Influence

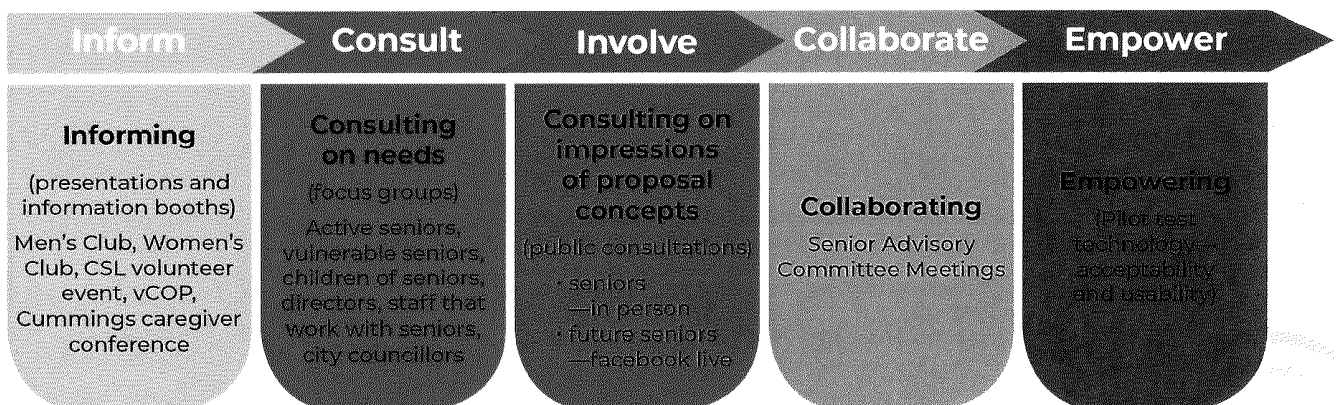


Figure 6-2: Chart illustrates five increasing levels of community influence including inform, consult, involve, collaborate, and empower.

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### 6.3.1 Summaries from Engagement Activities

We conducted more than 15 community engagement events with more than 1,000 residents from November 2018 to January 2019. We also sent letters to 14,000 households with information about the project and an invitation to participate in the public consultations.

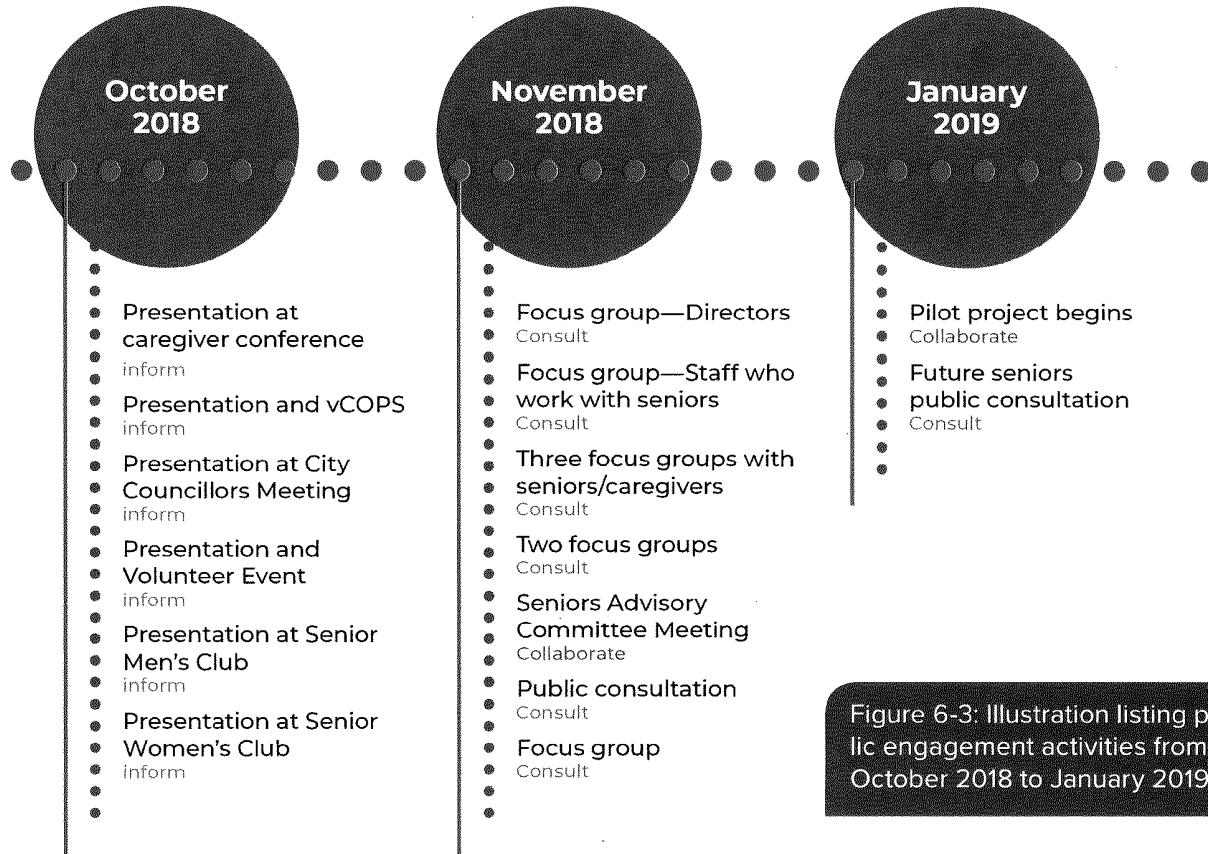


Figure 6-3: Illustration listing public engagement activities from October 2018 to January 2019.

#### 6.3.1.1 Inform: Going Out Into the Community

The first phase of community engagement was informing stakeholders and residents about the Smart Cities Challenge and inviting them to participate in various activities. Information presentations and booths with invitations to sign up to participate in engagement sessions were given to the Côte Saint-Luc Men's Club, the Côte Saint-Luc Women's Club, a Côte Saint-Luc volunteer appreciation event, vCOPs, and a Cummings Caregiver conference. We connected with, informed and invited more than 1,000 people as a result of these informational sessions. We also spoke on local television, used Facebook and Twitter to share our progress, and produced videos to update residents.

#### 6.3.1.2 Consult: Focus Groups

We conducted focus groups with our research partners to determine the most pressing needs of older adults when it comes to aging in place. The focus groups helped to ensure that everyone had the same understanding of the project and to prioritize needs for the proposal. We met with six groups of people (ranging from 4 to 12 people per group) including active older adults, vulnerable older adults, children of older adults, senior City staff, staff that work with older adults, and City Councillors. All groups were asked the same questions following a structured interview guide. During these focus groups—despite some differences between them—we were able to see trends emerge in terms of challenges to aging in place,

## Chapter 6 ENGAGEMENT

perceptions of technology, how Côte Saint-Luc has a lot of resources that it can leverage, and privacy concerns. The results of the focus groups helped the team come up with the concepts of the VILLAGE Initiative Proposal: smart technology for convenience, safety and social engagement through a connected community of people helping people.

### What we heard

We heard four broad themes from the focus groups, which can be summarized as follows:

1. **Challenges to aging in place:** social isolation, safety and insecurity, health care system, desire to remain autonomous, mobility, accessibility, daily tasks caregiver burden
2. **Perceptions of technology:** older adults learning curve, socio-economic gap, human connection, purposeful, simple, passive, reliable, caregivers (collect objective data for decision making), connect with others in city for help with daily tasks
3. **What the City can leverage:** confidence/trust in the city, public library and Aquatic and Community Centre are main hubs, partners with community organizations, “connector” role, advocacy and informational support, infrastructure already in place
4. **Privacy concerns:** hackability, theft, what will happen with the data, must be individualized, trustworthy technical support (choosing, installing, ongoing help), manage the privacy risks not avoid them (safety number 1 priority)

#### 6.3.1.3 Involve: Public Consultations

We organized two public consultations to understand the impressions of Côte Saint-Luc residents regarding the concepts being submitted in the proposal, that is, the VILLAGE Initiative and smart technology for convenience, safety, and social engagement.

**CONSULTATION NO. 1:** The first consultation attracted 81 participants. It was conceived for older adults and to be participative in order to share concepts from the Smart Cities Challenge and gain impressions of older adults.

### What we heard

We asked participants to draw a **care map** indicating who they would call during an emergency or if they need help with something. The results were surprising. Some people indicated that they had family or friends close by, or a neighbour, caregiver, health care professional or community program that they rely on for support. However, many people expressed that they were alone and that they relied on emergency services for even minor situations. Nobody listed the City as a node on their care map.

After the VILLAGE Initiative concepts were presented, the participants asked what, if anything gave them **peace of mind** about the project. They indicated that they like the VILLAGE initiative for both social engagement and security. The people-helping-people approach resonated with participants, as did the concept of village as a way to build community and feel connected and less isolated. They liked the idea of healthy older adults helping isolated older adults and having someone “be there without being there.” Others appreciated the safety and security that it could bring to people who live alone.

We asked about **concerns** related to the project. Participants raised several issues related to privacy, accessibility, and the human element. For privacy, participants expressed concerns around invasiveness, hackability, and what would happen in the event of power failures or malfunctions. For accessibility, they had concerns about affordability, language, simplicity of technology and adaptations for people with hearing, vision, speech and mobility impairments. For the human element, they said that technology without people will not be accepted, and that we can’t forget about the human element.

**CONSULTATION NO. 2:** The second consultation was for future older adults (ages 40 to 64) and was facilitated by the City Manager, the Mayor and two municipal councillors. It was streamed on Facebook Live. Participants were asked for feedback on the proposal and its impact on them as they age. Twenty-two participants attended this event.

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We asked participants how they would define **Thriving** as it relates to aging. Their answers focused on feeling connected and contributing to society, remaining active and engaged and having a sense of meaning and purpose. The perceptions of and interest in the **VILLAGE Initiative** were very positive with participants reflecting on that fact that this would have an “amazing positive impact in the event of a major event like last years heat wave” and that this would be “one less barrier for older adults.” They suggested that municipalities be at the frontlines for preventions and work closely with public health agencies. This age group is prepared to give of their time to help support the initiative.

### 6.3.2 Collaborate: Senior Advisory Council

A permanent Côte Saint-Luc Senior Advisory Council was established and its first meeting was held in November 2018. Chaired by the City Manager, the members of the Senior Advisory Council included several senior members of the community, volunteers, community partners, elected officials, and city staff who work with older adults. The first meeting focused on the Smart Cities Challenge, and feedback about what was proposed. Thoughts and concerns included:

- Ease of use related to technology
- Lack of WiFi
- Potential costs and accessibility
- Transportation
- vCOP able to make a positive contribution
- Volunteerism deemed to be an important part of the project

### 6.3.3 Empower: Pilot Project

We launched a pilot project in January 2019 with research partners from the Montreal Geriatric Institute. We implemented smart technologies and monitoring devices into the homes of five older adult participants. The purpose was to get preliminary information on the level of usability and acceptability of the technologies. The five were selected from a pool of more than 15 older adults

who showed interest in participating in the pilot project. The five were selected based on predetermined criteria (e.g., living alone, WiFi at home, no big pets, etc.). While we used a convenience sample, every effort was made to ensure a diverse group in terms of gender, language and socio-economic status.

Demographics of pilot participants:

- 3 men, 2 women
- 3 apartments (1 specifically for autonomous older adults), 2 single-dwelling homes
- 3 have involved family living in Montreal, 2 do not
- Age range: 65 to 93

All participants expressed challenges related to safety in the home, performance of instrumental activities of daily living, and fear of falling. None of them had any cognitive impairments, and two shared that they were experiencing some symptom of depression.

During the first meeting, participants signed consent forms and sat for a short interview and completed standardized questionnaires. During the second meeting, we implemented the technology and offered education in learning how to use it. Ongoing support was provided. Only one participant has been involved long enough to have participated in a follow-up interview to discuss perceptions on usability and acceptability

### What we learned

A few weeks after installation, participants were asked questions about the usability and acceptability of the technologies. In general, participants expressed:

- The sensors did not feel invasive
- The level of support provided during installation was excellent in terms of explanations received. The letter that was created to describe the process which was given to each participant is attached.
- Alexa was especially appreciated, however participants wished it was programmed to do more things—such as making calls to family and friends

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- Aside from the Alexa, the rest of the technology had no impact on improving or hindering daily activities
- The installation of the sensors and lights was not always done satisfactorily and they fell off—several visits were often needed to ensure that sensors were installed properly
- Participants need access to training and support to ensure the proper use of smart home technologies
- One participant was given a Laipac watch that had fall detection and SOS button functions—however, it kept giving false alerts and therefore was not satisfactory and needed to be disabled during the pilot. Further review of this device is warranted.
- Participants would be willing to pay for hardware and some monitoring subscription fees, however reported that subsidies will need to be available for people who can't afford it. At this point they were not comfortable committing to a price they would be willing to pay since they do not know exactly what they would be receiving or how it would help.

See Appendix for consent forms, letter given to participants, and preliminary report.

### 6.4 COMMUNITY ENGAGEMENT STRATEGY FOR THE NEXT PHASE

During the next phase of the Community Engagement strategy, we will focus on equity to ensure we connected with an even broader cross-section of Côte Saint-Luc population. We want to reach underrepresented and health-disparity populations, increase stakeholder involvement, and distribute outreach materials in a more targeted and strategic manner. We will continue to work closely with organizations and other partners working with specific populations and communities to provide ongoing opportunities in a variety of formats for residents and stakeholders to share experiences and ideas for the VILLAGE Initiative. Given the opportunity, we will focus on adding the following principles to our Community Engagement Strategy.

#### 6.4.1 Outreach

We will take engagement to places where people are already congregating, setting up pop-up workshops at community events and popular destinations to make it easier for community members to provide their comments without having to attend a separate meeting. This will help us to ensure that the right community members are at the table.

#### 6.4.2 Participative Approach

The process and structure of community engagement activities will allow for all voices to be heard and equally valued. Community members will be involved in developing the VILLAGE Initiative from conceptualization, to implementation, to evaluation, to ensuring it is culturally sensitive.

#### 6.4.3 User-friendly Material

To effectively communicate with members of the public, we will develop welcoming, user-friendly, jargon-free community engagement materials that are visually attractive and written with easy to understand language. Bright stickers, post-it notes, pens and markers will be provided for people to share comments.

#### 6.4.4 Design-Thinking Approach

In order to ensure that the best, most impactful services will be delivered, we will apply IDEO's Design-Thinking process (described below):

- **Empathize:** Learn about the audience through observation, seeking to understand users' perspective

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- **Define:** Construct a point of view based on user needs
- **Ideate:** Brainstorm and come up with creative solution
- **Prototype:** Build representations of ideas
- **Test:** Test ideas through prototyping, pilot projects

Once tested, the developers of both technology and social transformation will loop back into the relevant phase to re-define, re-ideate, re-create a

prototype, and re-test until the service works and satisfies user needs and expectations. This process puts community engagement at the heart of design and innovation and allows the actual users to share their experience of a service with those who will be delivering it.

In addition to traditional community engagement activities including presenting at conferences and events, focus groups, and mailings, additional efforts to engage residents will be made in person and online.

### 6.4.5 In-person Activities

Activity	Description
Senior Advisory Committee meetings (4 meetings per year)	Composed of health care professionals, older adults, caregivers, and city staff. The primary role is to: <ul style="list-style-type: none"> <li>• provide multidisciplinary, well-rounded perspective on needs of older adults and caregivers and solutions</li> <li>• provide guidance on VILLAGE initiative planning and implementation process</li> <li>• assist in disseminating information and serving as a liaison to community members</li> </ul>
Pop-up workshops (2 to 4 per year)	Informal engagement opportunities strategically located in places where people are already congregating including the library, the Aquatic and Community Centre, the malls, community events, parks and other popular designations. These workshops will include opportunities to interact with the smart technologies that making learning about the project and sharing ideas easy and inviting. Pop-up workshops enable people to share comments quickly, provide materials for participants to engage with online materials on their own time, and capture the perspectives of people who may not ordinarily attend more traditional workshops.
Listening sessions (4 per year)	Listening sessions, like pop-up workshops, take the meeting to the people. However listening sessions typically take place at a regular meeting of a pre-existing group. For example, a listening session may take place at a Senior Men or Women's Club meeting, or at an activity taking place at a local residence or community centre. Listening sessions enable people to participate in the planning process at meetings they already attend regularly, and provide an opportunity for in-depth discussion with specific demographic or special interest groups within the community.
Showcase with user experience sessions (2 per year)	Innovation-through-design thinking is a structured, human-centered method for creatively solving complex problems that inspire and delight users. Using iterations to: <ul style="list-style-type: none"> <li>• test and stage</li> <li>• refine prototypes and solutions</li> <li>• learn more about user</li> <li>• refine solutions</li> </ul>
Individual interviews (at least 10 individuals)	Individual interviews with residents who are homebound and cannot participate in the focus groups or other community engagement activities



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Activity	Description
Thrivability sessions for the VILLAGE Community App (monthly)	Working with an experienced facilitator, we will work with residents to cultivate the fertile conditions for the VILLAGE Initiative to be successful and for older adults to age in a place of their choosing, closely connected to their communities with the supports and tools they need. We will explore aging of their own design, opportunities for residents to use their talents to improve the VILLAGE and plan social activities that minimize isolation and promote interaction and trust within the village community, between individuals who ask for help when needed and individuals who offer help. These sessions will help to fill the gap and allow meaningful engagement and initiative of the VILLAGE before service delivery can begin.

### 6.4.6 Online Activities

Activity	Description
Website	VILLAGE Initiative website will be maintained and expanded to communicate general project information, announce events and engagement opportunities, and house online engagement tools like the survey. The project website will also provide an area for people to share open-ended comments related to the project and to opt into the mailing list and receive e-mail updates.
Survey	An online survey will be developed and accessible directly through the website. Hard copy forms will be available as well. The survey will be developed with our research partners to ensure reliability and validity.

## 6.5 RISKS AND MITIGATION MEASURES

Risks	Risk Mitigation Plan
Low engagement levels of identified target groups, which can jeopardize the success of the onboarding stage of the platform and service delivery buy-in	<ul style="list-style-type: none"> <li>• Ensure tools and locations of community engagement are accessible and spread out across the City of Côte Saint-Luc</li> <li>• Focus on outreach and bringing engagement opportunities to where people congregate using pop up workshops and listening sessions</li> </ul>
Community concerns, needs and questions not sufficiently addressed, jeopardizing success and sustainability of platform and service delivery	<ul style="list-style-type: none"> <li>• Design community engagement sessions to ask the right questions</li> <li>• Give residents many opportunities to express their needs, concerns and questions</li> </ul>
Lack of information or misconceptions about the project and its outcomes leading to disillusionment of participants	<ul style="list-style-type: none"> <li>• Ensure transparency in community engagement sessions in terms of where we are, where we are going, and how information gathered from residents will be used in developing the VILLAGE Initiative</li> <li>• Communicate updates and how they like to findings from community engagement</li> </ul>
Interactions & discussions during engagement activities going off tangent or being monopolized by a few participants	<ul style="list-style-type: none"> <li>• Use facilitators with extensive experience in dealing with difficult group dynamics and keeping discussions on track</li> </ul>
Long lag time between community engagement and onboarding of platform and service delivery phases of the project	<ul style="list-style-type: none"> <li>• Plan on-going engagement activities including regular brainstorming and working session where residents can play a large role in the development of the VILLAGE Community App (people helping people)</li> </ul>



## Chapter 7 DATA AND PRIVACY

This chapter is to be read in close conjunction with the Preliminary Privacy Impact Assessment (PPIA) and documents which have been placed in the Confidential Annex on Privacy.

### 7.1 CONTEXT

Many private companies in the world market are promoting the use of smart home solutions for older adults, but without the rigorous data governance rules and oversight that are necessary to protect users' sensitive personal and health information. Who owns the sensors, who has access to the data they collect, and what the data can be used for are all issues arising from the proliferation of tracking and monitoring devices and systems. In the hands of private companies, individuals' personal information is often leveraged and commercialized for targeted marketing and other purposes, as has been recently revealed in other smart city projects.<sup>5</sup>

The VILLAGE Initiative is committed to the highest standard of privacy and data protection. Privacy-By-Design is built into the VILLAGE Initiative and will become the standard for other Canadian cities that adopt this program. This will put Canadian cities on the map for the Cities Coalition for Digital Rights, a world initiative to promote and track progress in protecting residents' digital rights in cities.<sup>6</sup>

#### 7.1.1 The New Organization

The VILLAGE Initiative will reside within a third-party non-profit entity created to manage the VILLAGE Initiative. The structure and governance of the new organization would ensure that data collected, created, and generated by the VILLAGE Initiative would continue, in perpetuity, to be subject to data protection and access rights and responsibilities applicable to the City and all provincial "public bodies." Since the new organization will be constituted in compliance with the *Quebec Act re-*

*specting Access to documents held by public bodies and the Protection of personal information* it will have all the duties, obligations, and rights to protect the data which will be generated by this Initiative.

According to the VILLAGE Initiative Governance Model, one member of the Governing Board will be a privacy expert so that we maintain data governance and privacy protection as a constant consideration throughout the execution, implementation and entire lifecycle of the project.

### 7.2 THE PRELIMINARY PRIVACY IMPACT ASSESSMENT

At the very early stages of the finalist phase, the City of Côte Saint-Luc engaged Sharon Polsky, President of AMINAcorp.ca, President of the Privacy and Access Council of Canada, and a Privacy by Design Ambassador with more than 30 years experience, to consult and advise the Côte Saint-Luc Smart Cities Team in the preparation of this VILLAGE Initiative proposal.

As is more fully elaborated in the Preliminary Privacy Impact Assessment (PPIA), which is included in the Confidential Annex of this proposal, the privacy consultant conducted a thorough assessment of the City's information protection and privacy compliance policies. As a result, she prepared a very exhaustive PPIA with 91 recommendations. Furthermore, she proposed that the City adopt an Information Privacy Protection and Governance Policy Framework, and the City is prepared to adopt that Policy Framework in a timely fashion. In addition, the City envisions incorporating the suggested Policy Framework and the recommendations into the articles of incorporation of the new

<sup>5</sup> "Smart Cities May be too Smart for their Own Good" National Post Feb 2 2019 in the Appendix <https://business.financialpost.com/technology/smart-cities-may-be-too-smart-for-their-own-good>

<sup>6</sup> See Bianca Wiley (@biancawylie) Senior Fellow at the Centre for International Governance Innovation and co-founder of Tech Reset Canada "Why we need to push for data rights in Canada." in the Appendix <https://business.financialpost.com/technology/why-we-need-data-rights-not-everything-about-us-should-be-for-sale>

## Chapter 7 DATA AND PRIVACY

VILLAGE Initiative non-profit organization as part of its creation.

The Policy Framework is intended to provide the foundation of the City of Côte Saint-Luc's Information Security and Privacy Protection program, and enable the City and the new VILLAGE Initiative organization to effectively identify, manage, and mitigate the risk of data exposure or compromise within the organizations' computer and information-handling systems and the technology and communications devices under their control.

All the essential elements related to privacy in support of this project are addressed in the PPIA, including compliance with all relevant privacy regimes, types and methods of data collection, and efforts and recommendations to adhere to the ten universal privacy principles which are the foundation of the Fair Information Principles that form the basis of Canada's Personal Information Protection and Electronic Documents Act (PIPEDA). Certain additional elements relating to privacy merit to be highlighted in this section which is not covered by confidentiality.

### 7.3 PRIVACY BY DESIGN AND HOW PUBLIC CONSULTATIONS INFORM DESIGN

The City of Côte Saint-Luc, in conjunction with academic and research partners and members of Quebec's health care profession, held several in-person public consultations and focus group discussions with a broad range of Côte Saint-Luc residents, their families, caregivers, and the staff who serve them. Consultations were intended to (and did) elicit feedback, concerns, and questions about the VILLAGE Initiative in general, and privacy implications and concerns in particular. It should also be noted that, pursuant to this exhaustive engagement exercise and the implementation of the pilot project in the homes of five independent older adults, issues around privacy and security were raised. All of those concerns (see Chapter 6: Community Engagement) were addressed and integrated into the design of the project. For instance, feedback indicated that:

- The solutions offered need to be customized

to each individual's level of comfort with technology in general and monitoring technologies in particular, since some participants will want monitoring via cameras and others not;

- The person who recommends devices and the one who does the installation must be trustworthy and accredited;
- The use and distribution of data must be totally secure and not available to any third parties without participants' explicit consent.

Residents who were consulted and those who participated in the pilot project understood that some risks (such as power failures or personal home intrusions) are unavoidable, but were prepared to play a role in managing risks in collaboration with the VILLAGE team. The partnership with researchers (including those involved in the pilot project) was also seen as providing a positive ethical approach that could further enhance the design of the VILLAGE Initiative.

### 7.4 OPENNESS AND BIG DATA

The City also believes that providing open access to project data about the VILLAGE Initiative must—and can—be done in a manner that genuinely respects privacy and governing law; and that strategy can—and will—invite innovation using anonymized data in a way that genuinely respects individuals' privacy.

The VILLAGE Initiative and the City will adopt a communication plan to explain to the public the policies and practices relating to the proposal's management and handling of personal information.

In addition, information management and other policies will be available online and by request as suggested in PPIA Recommendation 87—Access to Policies—ensure consent and notice provisions governing the collection, use, disclosure, and disposition of personal and health information through the VILLAGE Initiative are made publicly available through the City website or a dedicated VILLAGE Initiative website.

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### 7.5 FINAL COMPREHENSIVE PIA

As a fundamental component of developing the City's final proposal, we have addressed the privacy concerns through the Preliminary PIA and resolved issues that became apparent during the pilot project. For example, we prepared plain-language consent forms and pilot project participants were asked to sign both the City's consent forms and were invited to sign the consent for their information to be collected by our research partners from the Université de Montréal, whose consent forms are government approved.

If Côte Saint-Luc is selected as a winner of the Smart Cities Challenge, we will conduct a comprehensive Privacy Impact Assessment to ensure that VILLAGE participants' information is adequately safeguarded, whether through collaborations with research and healthcare partners or in relation to the technology and devices employed in the VILLAGE Initiative.

Furthermore we will rely on the advice and guidance of our major health partner, the CIUSS Centre Ouest-de-l'île de Montréal/Integrated Health Network for West Central Montreal, headed by Dr. Lawrence Rosenberg whose letter of support indicates its intention "to collaborate with Côte Saint-Luc in an advisory role regarding its program governance, alignment of technology roadmaps and data integration aimed at augmenting Patient Health records as well as information privacy protection."

This collaboration has already started in that they have shared with Côte Saint-Luc the policies, laws, regulations, and directives that will guide our information security and data governance once we begin to service those residents of our city who are patients in their health network.

This model of collaboration will serve other communities across the country when adopting the VILLAGE platform.

### 7.6 PRIVACY COMMISSIONER OF QUEBEC

The City of Côte Saint-Luc submitted the draft PPIA to the Privacy Commissioner of Quebec (see letter in the Confidential Annex). After due consultation with the Privacy Commissioner's office, we revised the PPIA to address all of its concerns and included its recommendations.

### 7.7 RISK STRATEGY

The PPIA identified a broad range of risks and unintended consequences that could result from the creation and implementation of the VILLAGE Initiative, and provided detailed recommendations and strategies to mitigate the risks, which are outlined in the four key findings:

#### **Finding 1—Beyond the Baseline**

The wealth of sensitive personal, health, and financial information that will be collected, used, and disclosed in the VILLAGE makes it clear that it is incumbent upon both the City of Côte Saint-Luc and the VILLAGE non-profit organization to go beyond the baseline requirements of the privacy laws.

Côte Saint-Luc must ensure that information is collected and disclosed at the right times, for the right reasons, to the right parties, and in the right amounts, and ensure that the personal information is protected against such risks as unauthorized access, collection, use, disclosure, disposal, and loss of use throughout its lifecycle and to a degree that is appropriate to the sensitivity of the data.

#### **Finding 2—Prevention is Key**

The intentional reliance on technology to enhance independent living demands adequate controls for securing all information in the VILLAGE (regardless of its form or format) against unauthorized access, use, disclosure, loss, loss of use, and destruction. The importance of minimizing the personal and health information collected, and prop-

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erly safeguarding it throughout its lifecycle, cannot be overstated.

Accordingly, it is essential to ensure that effective encryption is required in all elements of the VILLAGE; that all VILLAGE data be categorized and segmented, de-identified and encrypted at source, at rest and in transit through its entire lifecycle; that use by third parties be limited by non disclosure agreements and contracts that articulate strict limits on sharing, access by further third parties, and data location; and that both Privacy by Design and Privacy by Default be embedded and required as the de facto standard in all elements of the VILLAGE so that it genuinely respects privacy while facilitating innovation and scalability.

### **Finding 3—Participants Must Be in Control of their own Information**

The desired outcome of the VILLAGE Initiative will rely on individuals voluntarily joining the VILLAGE Initiative; but they will trust and use the “smart” VILLAGE solution only if they are satisfied that it provides adequate confidentiality and privacy, and that it enables them to have explicit control over whether and what information about them is (and is not) collected, who has access to which parts of it, and that they can have access to their own information when they want or need it.

### **Finding 4—Maintain Primary Control over Information, and Control Secondary Uses**

The collection, processing, storage, retention, and management of personal and health information might rely on third parties. Accordingly, it is essential that clear and unambiguous language limit vendors or other third parties from releasing/revealing personal/health information to subsequent parties, and that such limiting language be embedded in all agreements, bid processes, and purchasing policies/procedures relevant to the VILLAGE Initiative.

Comprehensive protection of personal and health information can be attained—throughout the data lifecycle—by the City of Côte Saint-Luc creating a separate organization to manage the VILLAGE Initiative, thereby facilitating data sovereignty and ensuring that VILLAGE data would continue to be subject to data protection and access rights and responsibilities applicable to the City.



## Chapter 8 FINANCIAL

### 8.1 INTRODUCTION

This chapter describes the five-year financial plan for the VILLAGE Initiative program including estimates for expenses and revenues along with a detailed financial analysis. This financial plan adopts a top-down forecasting approach.

#### Program Overview

The VILLAGE Initiative program is comprised of five projects and 40 core activities focused on the implementation of a Connected Framework in the City of Côte Saint-Luc as defined in the Challenge Statement and aligned with milestones payments for outcome achievement defined in the Performance Measurement chapter.

Project	Total five-year cost in \$CAD
Governance and Operations	\$3,170,000
Community Engagement	\$1,128,250
Platform Development	\$3,362,000
Service Delivery	\$1,719,500
Sustainability & Transferability	\$629,250
<b>TOTAL</b>	<b>\$10,000,000</b>

Table 8-1: Cost Breakdown by Project

#### Management and Oversight

The VILLAGE Initiative management and oversight for accounting and financial projections will be the responsibility of the Chief Financial and Operations Officer (CFO).

### 8.2 PROGRAM COST ESTIMATES

The total estimated cost for the VILLAGE Initiative program over five years is \$10 million with a \$405,000 in-kind contribution from the City of Côte Saint-Luc, which covers half of the CEO's salary (\$375,000) and the first two years of rent (\$30,000). The first table shows the breakdown by project (totals have been rounded to the dollar). The second table shows expenses by category.

Expense Category	Total five-year cost in \$CAD
Management Costs	\$6,965,000
Human Resource Costs	\$867,000
Operating Costs	\$2,195,000
<b>TOTAL</b>	<b>\$10,000,000</b>

Table 8-2: Cost Breakdown of Expenses

#### Management Cost Allocation

Members of the Management Team, while defined in the Governance and Operations project, would allocate their time and work across projects according to their skillsets and expertise. Cost estimates have been allocated in the table below.

Management	Revenue Allocation in %	Annual Salary
CEO	40% Governance and Operations 35% Community Engagement 10% Service Delivery 15% Sustainability	\$150,000 (\$75,000 in-kind by the city)
CTO	40% Governance and Operations 40% Platform Development 10% Service Delivery 10% Sustainability	\$150,000

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Management	Revenue Allocation in %	Annual Salary
Admin	40% Governance and Operations 20% Community Engagement 20% Service Delivery 20% Platform	\$60,000
Marketing and Communications Coordinator	20% Governance and Operations 50% Community Engagement 30% Service Delivery	\$50,000
Chief Financial and Operations Officer (CFO)	50% Governance and Operations 20% Community Engagement 10% Service Delivery 15% Sustainability	\$120,000
Director of Community Engagement & Service Delivery	20% Governance and Operations 40% Community Engagement 40% Service Delivery	\$100,000
Fundraising and Sustainability Manager	10% Governance and Operations 80% Sustainability	\$75,000 starting second year

Table 8-3: Management cost allocation

## Assumptions and Cost Estimating Methodology

Cost estimates were developed by breaking down each project into four major categories: (1) conception and planning, (2) implementation and operational results, (3) monitoring performance indicators, and (4) contingency and risk mitigation. The methodology for each element is further described below.

Cost Elements	Assumptions	Estimated % of Costs—five years
Conception and Planning	Final conception and planning of all projects and services are estimated at 85% of the total costs of management, additional resources and operating costs the first year and 25% each year after	\$3,143,350
Implementation and Operational Results	All implementation and operational results are estimated at zero of the total costs of management, additional human resources and operating costs the first 12 months and at 62% each year after.	\$5,558,920
Monitoring Performance Indicators	Monitoring and reporting performance indicators per project costs are estimated at 10% of the total costs of management, additional human resources and operating costs for the five years	\$1,002,700
Contingency and Risk Mitigation	Contingency and Risk Mitigation costs are estimated at 3% of the total five-year costs	\$300,810

Table 8-4: Cost Elements and Assumptions

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### 8.3 FINANCING AND REVENUES

#### 8.3.1 Introduction

This section presents the projected funding required to complete the program including projected revenues and assumptions.

#### 8.3.2 Financial Plan Overview

This Projected Financial Plan reflects the planned funding strategy through which the VILLAGE Initiative will be financed. This includes the \$10 million start-up fund financed by Infrastructure Canada through 13 milestone payments and revenue generated from a number of sources to ensure sustainability and scalability in the long-term. These sources include user fees from smart device solution sales, partner subsidies, government grants, planned giving, endowment donations, and premium solution support services.

With the aim of funding for sustainability, we have had a number of active discussions with financing partners who would provide additional capital to a \$10 million prize from the Smart Cities Challenge. For instance, MEDTEQ have strong interest in supporting the VILLAGE Initiative should we be a win-

ner in the Smart Cities Challenge, as evidenced by their letter of support. MEDTEQ is the Industrial Consortium for Research and Innovation in Medical Technologies, which accelerates the collaborative development of innovative technologies for clinicians and patients and their validation and integration into Canadian and international health networks. Their support could include in-kind contributions as well as cash contributions of \$500,000 per project year over three years (up to \$1.5 million per approved project).

The letter of support from Concordia University confirms their strong interest in supporting the VILLAGE Initiative. As a founding partner of MEDTEQ, Concordia University is open to providing in-kind resources, research grants and high-leverage project structuring to offer multiple matching funds to a \$10 million prize from the Smart Cities Challenge.

We have included a full-time Fundraising and Sustainability Manager in our plan, starting in year 2, who would be focused on ensuring the achievement of our fundraising objectives towards short-, medium-, and long-term sustainability of the VILLAGE Initiative.

The following table shows our revenue assumptions in more detail.

Description	Revenue Assumptions	Total Estimated Revenue for five years
Smart Device Solution Sales	<p>Starting the fourth year, we estimate that 600 residents will purchase our smart device solutions at \$1,200 annually for a total of \$720,000, representing 10% of the 6,000 older adults who live alone in our city.</p> <p>Starting the fifth year, we estimate that 1,200 residents will purchase smart device solutions at \$1,200 annually for a total of \$1,440,000, which represents 15% of 6,000 residents + 50% (300) repeat customers from the previous year.</p> <p>We are working, through our partner financing efforts, to put in place a subsidy program for residents to purchase these solutions, based on income level and other factors.</p>	\$2,160,000



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Description	Revenue Assumptions	Total Estimated Revenue for five years
Partner Subsidies, Research Grants, Government Grants, Foundations	Starting the third year, we estimate based on our currently strong level of interested partners that we will be able to confirm three partner subsidy agreements: <ul style="list-style-type: none"> <li>• \$500,000 (third year)</li> <li>• Research and other government grants \$1 million (fourth year)</li> <li>• Foundations: \$500,000 (fifth year)</li> </ul>	\$2,000,000
Planned Giving and Endowment Funds	Starting the third year, we estimate, based on strong existing relationships with foundations that we will be able to set up a planned giving program and a VILLAGE Initiative endowment fund: <ul style="list-style-type: none"> <li>• Planned giving: fourth and fifth year</li> <li>• \$50,000 each year for a total of \$100,000</li> <li>• Endowments: third, fourth, and fifth year: 20 donations at \$1,000 each for a total of \$20,000 each year</li> </ul>	\$160,000
Solution Support Services	Starting in the fifth year, we estimate that we will generate revenue from providing solution support services to (a minimum of) five cities in Canada at \$50,000 each.	\$250,000
<b>TOTAL</b>		<b>\$4,570,000</b>

Table 8-5: Revenue Assumptions

## 8.3.3 Financing Strategy

The projected financing strategy, or combination of financing approaches, will depend on market circumstances. However, we have developed a preliminary financing plan based on currently available program data and market circumstances. To the extent that additional data becomes available or market circumstances change, we will update the financial plan to account for these changes. See below for the financial details per project for the five years as well as the detailed financials of all the costs and the financial analysis summary of the revenues and costs for the five years.

## 8.3.4 Estimated Revenues Beginning Third Year

We will use the estimated revenue sources to finance additional human and material resources in three key projects: community engagement, plat-

form development and service delivery. We anticipate an increase in:

- the number of older adults who will want to receive information on services and updates both in person and online;
- the number of lower-income older adults who might require subsidies to offset the monthly fees of their smart device solutions including hardware;
- the number of older adults who will want to purchase smart device solutions.

In all three cases, additional occupational therapists, case managers, smart device installers, help desk personnel, platform developers and hardware will be required. Additionally, with the MEDTEQ partnership, research and development of innovative applications and solutions to foster autonomy and a quality of life for older adults and their caregivers will be possible.



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## 8.4 ASSUMPTIONS, RISKS AND MITIGATION

The projected financial structure for the program includes the revenues that will be raised by the third year and milestone payment proceeds to pay for project conception and planning, implementation and operational results, monitoring performance measurements and contingency and risk mitigation phases by Infrastructure Canada.

The funding available for the project will be subject to risks that cannot be fully known at the time of this writing. The following is a summary of potential risks that may affect the financing of the project as well as the risk allocation analysis when assessing each project's advancement and delivery.

Risk	Mitigation
Liquidity Risk	Clearly define and execute outcomes-based performance agreement with Infrastructure Canada to ensure timely payments at milestones.
Longevity Risk	Clearly define and execute long-term revenue and financing outcomes to ensure sustainability of the VILLAGE Initiative in fundraising and partner subsidy agreements.

Table 8-6: Risks and Mitigation Plan for Financial

## 8.4.1 Risk Allocation Analysis

The VILLAGE Initiative will use a two-step screening process when assessing each project's advancement and delivery. In the first-step screening phase, project information and data are reviewed and assessed against a set of second-step screening criteria to determine feasibility and readiness of each. A project that does not meet some or all the first-step screening criteria may not advance or still may advance based on other considerations.

Project Deliverables	Is timeline of project activities realistic, with the right target and in allocated budget?
Funding Requirement	Does the project have revenue generation potential to partially offset the initial public funding?
Project Team	Does the project have all the necessary human resources to complete the deliverables?
Project Efficiencies	Is there an opportunity to bundle projects or create economies of scale?
Ability to Raise Capital	Can the outputs/deliverables help free funds or leverage existing sources of funds?
Ability to Transfer Risk	Can project help transfer risks and potential future responsibilities to the private sector on a long-term basis?

Table 8-7: First-step Screening for Risk Allocation Analysis

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Community Need	Does the project address the needs of the community?
	Does the project support improving the quality of life for older adults?
Community Benefits	Will the project bring wellness and social resilience benefit to the community?
	Does the project help achieve performance, and safety as outlined in Challenge Statement?
Social and Economic Development	Will the project enhance the City's social and economic development objectives?
Market Demand	Is there sufficient community appetite for the project—isolated older adults, caregivers, healthcare providers, etc.?
Stakeholder Support	What is the extent of support for the project? What strategies are proposed to involve partners, governments, and foundations in the project?
Legislative Considerations	Are there legislative considerations that must be considered?
Technical Feasibility	Is the project described in enough detail to determine the type, size, location, and proposed dependencies?
Project Risks	Are there any risks unique to the project that have not been outlined that could impair project viability?

Table 8-8: Second-step Screening for Risk Allocation Analysis

### 8.5 REPORT ON THE USE OF THE FINALIST GRANT, INCLUDING REASONABLE JUSTIFICATION OF ANY DIVERGENCES FROM THE PLAN LAID OUT IN THE APPLICATION

We did not fundamentally diverge from the core concept in our initial proposal, the SHARED (Senior Health and Real-time Environmental Data) Initiative, which was focused on leveraging and implementing smart devices and data technologies to keep isolated older adults safer, healthier, and more connected to city services while living at home.

As you will see in the attached Final Revised Budget, we applied the \$250,000 finalist grant towards expenses mainly focused on consulting, professional services and various communications needs. The cost of equipment and technical services are far less than what we originally projected in the preliminary proposal.

Once we were selected as finalists, we set out to find advice from business and technology experts. In keeping with our municipal rules and best prac-

tices, we sought out competitive bids for the principal responsibilities of project management and technology strategy.

The first contract was given to Innovitech, a company with more than 25 years of experience as innovation strategists. We mandated Innovitech to assist us in developing the SHARED concept and mobilize key research, industry, academics, entrepreneurs and clinical partners in the field of medical technology and digital health. Through their initial mandate, we were introduced to a series of academics, researchers and government agencies. As well, we were invited to present and participate in an Innovation Summit on Medical Technology and Digital Health organized by Innovitech and MEDTEQ in January 2019.

In the summer of 2018, we hired Marc Chriqui from Delevante Software Inc. to be our Project Director and direct the development of the final proposal from concept to implementation of the pilot phase. Marc drove the finalist phase and oversaw every detail of the process from developing partner relations to researching technology, to making repeated presentations and participating actively in

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community engagement and drafting and preparing the final proposal. His compensation is based on monthly consulting fee.

Other professionals hired included Amina Inc. for the Privacy Impact Assessment. Erica Botner, Public Engagement Coordinator, was hired to work on engagement and oversee our pilot project. We also hired a public engagement animator for our city-wide engagement consultation and hired a professional business writer to help with the final drafting of the proposal.

Videography, legal fees and translation round out the professional services expenses. As can be seen from the final revised budget, hardware and equipment were not major expenses and this is in stark contrast to the initial budget that was presented in the initial application.

The major variance between the final revised budget for the finalist grant and the initial budget as proposed can be explained as follows:

The budget for the initial proposal of the SHARED project was very focused on sophisticated and expensive environmental, home and mobile sensors. The proposal was to run a "Living Lab" pilot project involving 100 isolated older adults, equipping their home with sensors, and personal GPS/fall sensors to trigger city services using a decision-making server that uses machine learning combined with an expert system. We also budgeted for the installation of an environmental sensor grid to test the solutions ability to monitor air and noise pollution.

Once we were selected as a finalist, it soon became apparent that this initial project was overly ambitious for the relatively short finalist phase. After consultation with our population, it was understood that the environmental monitoring was not a top priority for our residents in the initial phase of the project.

A total of 73 percent of the initial budget was focused on hardware, based on a very optimistic number of pilot participants and environmental

sensors. This number turned out to be a logistical challenge, which we could not address based on the guidelines and recommendations of the Smart Cities Challenge.

As we understood from the start of the finalist phase, the pilot projects could only be implemented once we had conducted a thorough exercise in community engagement of our residents in order to really understand their needs and priorities. As well, we had to assess and evaluate the technical products that were readily available in the market, without the restrictions of licensing, non-compete and NDA agreements. The initial companies who we approached were very reluctant to allow us to integrate their devices in our pilot homes without very restrictive conditions, which we could not accept.

In the time available and based on feedback from community engagement, we preferred to focus on quality over quantity. The DOMUS Laboratory at the University of Sherbrooke offered us their connected home solution, equipment and expertise at a very fair price. This equipment is relatively inexpensive and the platform is based on open technologies that can be adapted to a diversity of older adults and home types depending on their needs.

Furthermore, we had to adopt protocols for the selection of pilot participants, which were also based on consent and privacy considerations that took time to implement. This included home interviews and assessment of needs. In order to customize the devices to the requirements of the users, we relied on the expertise of our Public Engagement Coordinator.

This explains the variance between the original budget and the revised budget. The former was based in large measure on hardware and technology while the later was to acquire professional services for strategic business development, project management and intensive community engagement.

## Chapter 8 FINANCIAL

## Finalist grant budget report

Item	Rev. Amount	Comments	QST (5%) Plus taxes	Budget	Actual 2018	Estimates 2019
	Feb. 4/19				Dec. 31/18	Feb. 4/19
02-801-00-114 - Consultants						
Consulting Services	85,000	Delevante Software - September 1, 2018 to May 15, 2019	4,250	<b>89,250</b>	41,995	47,255
02-801-00-112	28,224	Staff - October 19, 2018 to May 15, 2019		<b>28,224</b>	8,680	19,544
Public Engagement Coordinator						
02-801-00-311 - Travel						
Various travel costs (incl. conferences)	15,000	October 2018 and March 2019 trips, etc., 2-3 people per trip. (incl. QST portion)		<b>15,000</b>	5,298	9,702
02-801-00-317 - Meals and refreshments						
Meetings/events/etc.	1,000			<b>1,000</b>	413	587
02-801-00-332 - Communication Expenses						
Mobile phone/network/etc.	500			<b>500</b>	487	13
02-801-00-416 - Legal Services						
Legal Fees	7,250	Robic	363	<b>7,613</b>	7,612	
02-801-00-419 - Professional Services						
Consultant - Privacy	22,175	Amina Services	1,109	<b>23,284</b>	23,282	
Consultant - Animator (Pub- lic Engagement)	4,075	Alambic	204	<b>4,279</b>	4,279	
Videographer	15,000	Bowes Media Inc.	750	<b>15,750</b>		15,750
Business and Innovation Strategists	25,000	Innovitech	1,250	<b>26,250</b>	22,827	3,423
Pilot Implementation & Soft- ware Development	20,000	DOMUS	1,000	<b>21,000</b>		21,000
Drafting of Proposal	10,000	ib2ib	500	<b>10,500</b>		10,500
Translation	3,000		150	<b>3,150</b>	139	3,011
02-801-00-670 - Misc. Materials and Supplies						
Hardware and tele- com (tech supplies)	1,270	DOMUS Hardware, Lai- pac Smartwatches, etc.	64	<b>1,334</b>	1,332	
02-801-00-699 - Equipment						
Servers	-			-		
02-801-00-420 - Misc. Services and Contracts	12,506			<b>2,868</b>	2,406	465
	250,000		9,639	<b>250,000</b>	118,750	131,250

Table 8-9: Accounting of Finalist Grant

## Chapter 8 FINANCIAL

## GOVERNANCE AND OPERATIONS

Management Team	TOTAL 5-YEAR COST
CEO	\$150,000.00
CTO	\$300,000.00
Admin	\$120,000.00
Marketing and Communications Coordinator	\$50,000.00
Chief Financial and Operations Officer (CFO)	\$300,000.00
Head of Community Engagement and Service Delivery	\$100,000.00
Fundraising and Sustainability Manager	\$60,000.00
<b>TOTAL</b>	<b>\$1,080,000.00</b>
Operating Costs	
Legal Costs	\$100,000.00
IT Systems	\$150,000.00
Translation	\$25,000.00
Privacy Consulting	\$125,000.00
Accounting Costs	\$175,000.00
Marketing Budget	\$50,000.00
Office Space/Centre of Excellence	\$300,000.00
Travel	\$85,000.00
Supplies and Equipment	\$85,000.00
IT Infrastructure	\$75,000.00
Other G&A incl. Contingency	\$145,000.00
Liability Insurance	\$160,000.00
Fringe Benefits - 20%	\$615,000.00
<b>TOTAL</b>	<b>\$2,090,000.00</b>
Stakeholders	
Partners, CSL: in-kind (\$405,000)	\$-
<b>TOTAL</b>	<b>\$-</b>
<b>TOTAL COST</b>	<b>\$3,170,000.00</b>

Table 8-10: Proposed spending—Cost per project: Governance and operations

## COMMUNITY ENGAGEMENT

Management Team	TOTAL 5-YEAR COST
CEO	\$131,250.00
CTO	\$-
Admin	\$60,000.00
Marketing and Communications Coordinator	\$125,000.00
Chief Financial and Operations Officer (CFO)	\$120,000.00
Head of Community Engagement and Service Delivery	\$200,000.00
Other G&A incl. Contingency	\$60,000.00
Fundraising and Sustainability Manager	\$-
<b>TOTAL</b>	<b>\$696,250.00</b>
Human Resources	
Facilitators	\$200,000.00
Marketing Support	\$160,000.00
Fringe Benefits - 20%	\$72,000.00
<b>TOTAL</b>	<b>\$432,000.00</b>
<b>TOTAL COST</b>	<b>\$1,128,250.00</b>

Table 8-11: Proposed spending—Cost per project: Community engagement

## Chapter 8 FINANCIAL

## PLATFORM DEVELOPMENT

Management Team	TOTAL 5-YEAR COST
CEO	\$-
CTO	\$300,000.00
Admin	\$12,000.00
Marketing and Communications Coordinator	\$-
Chief Financial and Operations Officer (CFO)	\$-
Head of Community Engagement and Service Delivery	\$-
Fundraising and Sustainability Manager	\$-
R&D Manager	\$300,000.00
Architect	\$450,000.00
UI/UX Designer	\$325,000.00
Developers/Engineers	\$525,000.00
Integration Specialists	\$325,000.00
Quality Assurance and Testing	\$150,000.00
Technical Writer	\$195,000.00
Tech Support	\$360,000.00
Other G&A incl. Contingency	\$60,000.00
Research Partners	\$-
<b>TOTAL</b>	<b>\$3,002,000.00</b>
<b>Human Resources</b>	
CTO + 12 resources	\$-
<b>TOTAL</b>	<b>\$-</b>
<b>Operating Costs</b>	
Equipment	\$75,000.00
Server Infrastructure	\$225,000.00
Design Tools	\$15,000.00
Development Tools	\$15,000.00
Testing Tools	\$15,000.00
Documentation Tools	\$15,000.00
<b>TOTAL</b>	<b>\$360,000.00</b>
<b>TOTAL COST</b>	<b>\$3,362,000.00</b>

▲ Table 8-12: Proposed spending—Cost per project: Platform development

► Table 8-14: Proposed spending—Cost per project: Sustainability and transferability

## SERVICE DELIVERY

Management Team	TOTAL 5-YEAR COST
CEO	\$37,500.00
CTO	\$75,000.00
Admin	\$60,000.00
Marketing and Communications Coordinator	\$75,000.00
Chief Financial and Operations Officer (CFO)	\$60,000.00
Head of Community Engagement and Service Delivery	\$200,000.00
Fundraising and Sustainability Manager	\$-
Other G&A incl. Contingency	\$60,000.00
Case Manager	\$240,000.00
Occupational Therapist	\$210,000.00
Program Support	\$150,000.00
Educational Technician	\$120,000.00
Tech Installers	\$120,000.00
Help Desk Agent	\$120,000.00
<b>TOTAL</b>	<b>\$1,527,500.00</b>
<b>Human Resources</b>	
Employer Mgmt Costs - 20%	\$192,000.00
<b>TOTAL</b>	<b>\$192,000.00</b>
<b>TOTAL COST</b>	<b>\$1,719,500.00</b>

▲ Table 8-13: Proposed spending—Cost per project: Service delivery

## SUSTAINABILITY AND TRANSFERABILITY

Management Team	TOTAL 5-YEAR COST
CEO	\$56,250.00
CTO	\$75,000.00
Admin	\$60,000.00
Marketing and Communications Coordinator	\$-
Chief Financial and Operations Officer (CFO)	\$90,000.00
Head of Community Engagement and Service Delivery	\$-
Other G&A incl. Contingency	\$60,000.00
Fundraising and Sustainability Manager	\$240,000.00
<b>TOTAL</b>	<b>\$581,250.00</b>
<b>Human Resources</b>	
Fringe Benefits - 20%	\$48,000.00
<b>TOTAL</b>	<b>\$48,000.00</b>
<b>TOTAL COST</b>	<b>\$629,250.00</b>

## COSTS PER YEAR OVER 5 YEARS

Projected Cost		2019	2020	2021	2022	2023	TOTAL
<b>Cost of management team</b>	CEO * \$75,000 contributed in kind by city	\$75,000.00	\$75,000.00	\$75,000.00	\$75,000.00	\$75,000.00	\$375,000.00
	CTO	\$150,000.00	\$150,000.00	\$150,000.00	\$150,000.00	\$150,000.00	\$750,000.00
	Chief Financial and Operations Officer (CFO)	\$120,000.00	\$120,000.00	\$120,000.00	\$120,000.00	\$120,000.00	\$600,000.00
	Admin	\$60,000.00	\$60,000.00	\$60,000.00	\$60,000.00	\$60,000.00	\$300,000.00
	Marketing and Communications Coordinator	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$250,000.00
	Head of Community Engagement and Service Delivery	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$500,000.00
	Fundraising and Sustainability Manager	\$-	\$75,000.00	\$75,000.00	\$75,000.00	\$75,000.00	\$300,000.00
<b>Community Engagement</b>	Facilitator and Marketing Support	\$-	\$90,000.00	\$90,000.00	\$90,000.00	\$90,000.00	\$360,000.00
<b>Platform</b>	R&D Manager	\$-	\$75,000.00	\$75,000.00	\$75,000.00	\$75,000.00	\$300,000.00
	Architect	\$90,000.00	\$90,000.00	\$90,000.00	\$90,000.00	\$90,000.00	\$450,000.00
	UI/UX Designer	\$65,000.00	\$65,000.00	\$65,000.00	\$65,000.00	\$65,000.00	\$325,000.00
	Developers/Engineers	\$-	\$75,000.00	\$150,000.00	\$150,000.00	\$150,000.00	\$525,000.00
	Integration Specialists	\$-	\$65,000.00	\$65,000.00	\$65,000.00	\$130,000.00	\$325,000.00
	Quality Assurance and Testing	\$-	\$-	\$50,000.00	\$50,000.00	\$50,000.00	\$150,000.00
	Technical Writers	\$-	\$-	\$65,000.00	\$65,000.00	\$65,000.00	\$195,000.00
	Tech Support	\$-	\$-	\$120,000.00	\$120,000.00	\$120,000.00	\$360,000.00
	Research Partners	\$-	\$-	\$-	\$-	\$-	\$-
<b>Service Delivery</b>	Case Manager	\$-	\$-	\$60,000.00	\$60,000.00	\$60,000.00	\$180,000.00
	Occupational Therapist	\$-	\$-	\$70,000.00	\$70,000.00	\$70,000.00	\$210,000.00
	Program Support	\$-	\$-	\$50,000.00	\$50,000.00	\$50,000.00	\$150,000.00
	Educational Technician	\$-	\$-	\$40,000.00	\$40,000.00	\$40,000.00	\$120,000.00
	Tech Installers	\$-	\$-	\$40,000.00	\$40,000.00	\$40,000.00	\$120,000.00
	Help Desk Agent	\$-	\$-	\$40,000.00	\$40,000.00	\$40,000.00	\$120,000.00
<b>TOTAL Cost of management team</b>		<b>\$710,000.00</b>	<b>\$1,090,000.00</b>	<b>\$1,700,000.00</b>	<b>\$1,700,000.00</b>	<b>\$1,765,000.00</b>	<b>\$6,965,000.00</b>
<b>Cost of human resources</b>	Employer Management Costs - 20%	\$111,000.00	\$126,000.00	\$126,000.00	\$126,000.00	\$126,000.00	\$615,000.00
	Fringe Benefits - 20%	\$-	\$18,000.00	\$78,000.00	\$78,000.00	\$78,000.00	\$252,000.00
<b>TOTAL Human Resources</b>		<b>\$111,000.00</b>	<b>\$144,000.00</b>	<b>\$204,000.00</b>	<b>\$204,000.00</b>	<b>\$204,000.00</b>	<b>\$867,000.00</b>

## COSTS PER YEAR OVER 5 YEARS (cont.)

Projected Cost	2019	2020	2021	2022	2023	TOTAL
<b>Operating Cost</b>						
Legal Costs	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$100,000.00
IT Systems	\$30,000.00	\$30,000.00	\$30,000.00	\$30,000.00	\$30,000.00	\$150,000.00
Translation Services	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$25,000.00
Privacy Consulting	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00	\$125,000.00
Accounting Costs	\$35,000.00	\$35,000.00	\$35,000.00	\$35,000.00	\$35,000.00	\$175,000.00
Marketing Budget	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$50,000.00
Office Space/Centre of Excellence	\$-	\$-	\$60,000.00	\$60,000.00	\$60,000.00	\$180,000.00
Travel	\$25,000.00	\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00	\$85,000.00
Supplies and Equipment	\$5,000.00	\$5,000.00	\$25,000.00	\$25,000.00	\$25,000.00	\$85,000.00
IT Infrastructure	\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00	\$75,000.00
Other G&A	\$5,000.00	\$5,000.00	\$25,000.00	\$25,000.00	\$25,000.00	\$85,000.00
Liability Insurance	\$5,000.00	\$5,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$160,000.00
Other/Misc.	\$-	\$-	\$-	\$-	\$-	\$-
Facilitators	\$-	\$24,000.00	\$24,000.00	\$24,000.00	\$24,000.00	\$96,000.00
Marketing	\$-	\$36,000.00	\$36,000.00	\$36,000.00	\$36,000.00	\$144,000.00
IT Equipment	\$-	\$-	\$25,000.00	\$25,000.00	\$25,000.00	\$75,000.00
Server infrastructure	\$-	\$-	\$75,000.00	\$75,000.00	\$75,000.00	\$225,000.00
Design Tools	\$-	\$-	\$5,000.00	\$5,000.00	\$5,000.00	\$15,000.00
Development Tools	\$-	\$-	\$5,000.00	\$5,000.00	\$5,000.00	\$15,000.00
Testing Tools	\$-	\$-	\$5,000.00	\$5,000.00	\$5,000.00	\$15,000.00
Documentation Tools	\$-	\$-	\$5,000.00	\$5,000.00	\$5,000.00	\$15,000.00
Contingency Cost 3%	\$60,000.00	\$60,000.00	\$60,000.00	\$60,000.00	\$60,000.00	\$300,000.00
<b>TOTAL Operating Cost</b>	<b>\$240,000.00</b>	<b>\$290,000.00</b>	<b>\$555,000.00</b>	<b>\$555,000.00</b>	<b>\$555,000.00</b>	<b>\$2,195,000.00</b>
<b>TOTAL</b>	<b>\$1,061,000.00</b>	<b>\$1,524,000.00</b>	<b>\$2,459,000.00</b>	<b>\$2,459,000.00</b>	<b>2,524,000.00</b>	<b>\$10,027,000.00</b>

Table 8-15: Proposed spending—Detailed financial analysis over five years



## VILLAGE INITIATIVE 5-YEAR PROJECTED FINANCIAL PLAN

	2019	2020	2021	2022	2023	TOTAL
Projected Revenues	\$-	\$-	\$520,000.00	\$1,790,000.00	\$2,260,000.00	\$4,570,000.00
Partner Subsidies, Research Grants, Government Grants, Foundations	\$-	\$-	\$500,000.00	\$1,000,000.00	\$500,000.00	\$2,000,000.00
Smart Device Solution Sales	\$-	\$-	\$-	\$720,000.00	\$1,440,000.00	\$2,160,000.00
Planned Giving	\$-	\$-	\$-	\$50,000.00	\$50,000.00	\$100,000.00
Endowments	\$-	\$-	\$20,000.00	\$20,000.00	\$20,000.00	\$60,000.00
Solution Support Services	\$-	\$-	\$-	\$-	\$250,000.00	\$250,000.00
Projected Expenses	\$1,006,900.00	\$1,441,900.00	\$2,366,900.00	\$2,706,900.00	\$2,959,400.00	\$10,482,000.00
Total Management, Human Resources, and Operating Expenses	\$1,002,000.00	\$1,437,000.00	\$2,362,000.00	\$2,357,000.00	\$2,437,000.00	\$9,595,000.00
Hardware	\$-	\$-	\$-	\$300,000.00	\$450,000.00	\$750,000.00
Assessment Fees	\$-	\$-	\$-	\$45,000.00	\$67,500.00	\$112,500.00
Admin Fees (Planned Giving)	\$3,500.00	\$3,500.00	\$3,500.00	\$3,500.00	\$3,500.00	\$17,500.00
Admin Fees (Endowments)	\$1,400.00	\$1,400.00	\$1,400.00	\$1,400.00	\$1,400.00	\$7,000.00
Net Income	-\$1,006,900.00	-\$1,441,900.00	-\$1,846,900.00	-\$916,900.00	-\$699,400.00	-\$5,912,000.00

## PROJECTED FINANCIAL PLAN

	2019	2020	2021	2022	2023	TOTAL
Projected Expenses	\$1,061,000.00	\$1,524,000.00	\$2,459,000.00	\$2,459,000.00	\$2,524,000.00	\$10,027,000.00
Cost of Management Team	\$710,000.00	\$1,090,000.00	\$1,700,000.00	\$1,700,000.00	\$1,765,000.00	\$6,965,000.00
Cost of Human Resources	\$111,000.00	\$144,000.00	\$204,000.00	\$204,000.00	\$204,000.00	\$867,000.00
Operating Costs	\$240,000.00	\$290,000.00	\$555,000.00	\$555,000.00	\$555,000.00	\$2,195,000.00
Actual Expenses	\$-	\$-	\$-	\$-	\$-	\$-
Cost of Management Team	\$-	\$-	\$-	\$-	\$-	\$-
Cost of Human Resources	\$-	\$-	\$-	\$-	\$-	\$-
Operating Costs	\$-	\$-	\$-	\$-	\$-	\$-

Table 8-16: Proposed spending—Five year projected financial plan

## Chapter 9 IMPLEMENTATION PHASE REQUIREMENTS

Should we be selected as a winner in the Smart Cities Challenge, the City of Côte Saint-Luc intends to work with its existing partners and future partners to identify and meet all regulatory reporting and legislative policy requirements. This chapter outlines our plan with regard to the requirements as outlined in the Finalist Guide.

### 9.1 DUTY TO CONSULT WITH INDIGENOUS GROUPS

The City of Côte Saint-Luc is located on the island of Montreal, which is situated in Mohawk (Kanien'keha:ka) and Iroquois Territory. The City has already reached out to the Health and Social Services of James Bay (Cree Health Board) to gauge their potential support. The Cree Health Board has shown interest. This will allow us to further offer this program to Indigenous groups and remote communities and involve them in the initial phases of the Initiative. We do not see any potential adverse impact to the Treaty holders in and around our community. On the contrary we see many potential benefits. We have some 40 residents in our community that have self-identified as Indigenous<sup>7</sup>. Should we be selected as a winner, we will reach out to these residents and ask them to participate in the initial phases of implementation if their families and elders see a potential benefit in participation.

### 9.2 COMMUNITY EMPLOYMENT BENEFIT (CEB)

In compliance with the Community Employment Benefit (CEB) program which applies to the winners of the Smart Cities Challenge, Côte Saint-Luc has already partnered with two organizations that are committed to recruiting and finding employment opportunities for a variety of targeted groups that are included in the CEB program. Both these organizations already collaborate with Côte Saint-Luc in that they directly service our residents with their business counselling and job placement services.

**Agence Ometz** is a well-established non-profit organization in the west-end of Montreal. It offers a variety of counselling services for job seekers and entrepreneurs. Agence Ometz provides a full range of employment services to special needs

job seekers, from skills training to job search assistance. It also offers services for employers to help them find qualified candidates with specialized skills. Agence Ometz also offers coaching for social enterprises and startups including courses on how to start a business and provides services for newcomers to help new arrivals to Montreal establish their lives in Canada through a range of services, from integration activities to employment services. Agence Ometz is accredited by the Ministère de l'Immigration, de la Diversité et de l'Inclusion (Quebec's Ministry of Immigration) to provide these settlement and integration support services to new immigrants. Please see Appendix for letter of support from Agence Ometz.

We have also partnered with **PME Centre-Ouest** which services Côte Saint-Luc and other west-end cities and boroughs on the island of Montreal. This organization is part of a government financed network of offices on the island that offers coaching, training and financing for entrepreneurs, and training and coaching for job seekers.

As a member city that sits on the Governing Board of the PME Centre-Ouest, Côte Saint-Luc has consulted with their advisors about the Smart Cities proposal and is in close contact with their counselors and advisors who will be able to direct potential candidates to the VILLAGE Initiative.

Once the VILLAGE Initiative is launched we will work with these two organizations in order to meet the requirements of the CEB program. In particular we will:

- Focus on recruiting new immigrants who are often skilled technicians and very well suited to learn how to install and develop smart home devices for seniors;
- Target youth for a variety of employment opportunities, especially in the technology domain and service delivery;
- In our contracts for procurement of services, we will give first consideration to social enterprises.

<sup>7</sup> Profil Sociodemographique, 2016, <http://ville.montreal.qc.ca/pls/portal/url/ITEM/538113131BC71046E0530A9301321046>

## Chapter 9 IMPLEMENTATION PHASE REQUIREMENTS

Women already represent a majority of Côte Saint-Luc city management and are planned to have a significant role in the VILLAGE Initiative non-profit organization as well. We are therefore not focused on affirmative action for women, however we will continue to recruit new staff and employees without any gender bias.

### 9.3 CLIMATE LENS ASSESSMENT (CLA)

Whereas the VILLAGE Initiative does not deal directly with greenhouse gas mitigation or climate change adaptation, there is no obligation or relevance on our part to undertake GHG mitigation assessment, or the climate change resilience assessment to respond to climate change related disruption or impact. However we would simply add that over the long term our project aims to implement environmental monitoring into the connected network linking seniors to city and social health services. Once deployed these environmental sensors for temperature and air quality will give us better indication of the impact of air pollution and extremes in weather, which would inform our policies and programs regarding GHG reduction and climate change resilience.

### 9.4 OTHER APPLICABLE LAWS, REGULATIONS, AND POLICIES

Managed by the Société d'habitation du Québec, the Programme d'adaptation de domicile (PAD) provides financial support for the home adaptation projects for people with disabilities. The goal is to allow people with physical disabilities to enter and exit their home, perform their daily routines, and therefore continue to reside in their own home more safely and securely. Financial assistance may be as much as \$16,000 per eligible person. The admissible work is determined by the municipal partner based on the terms of the program and the recommendations made by staff from the Local community services centres (CLSC), which often takes months of waiting, or costs residents out of pocket for a private occupational therapist. We will expedite the process by providing home assessment as one of the services offered by the VILLAGE Initiative. This assessment will be performed by an occupational therapist that we will have on staff. This is, in fact, part of our mandate as we already are partners in the PAD program. In addition, the City of Côte Saint-Luc will ask the Société d'habitation du Québec (SHQ) to include technological devices such as sensors as part of the program, as they are just as useful and important for safety and security as bars and physical adaptation tools.

### 9.5 RISKS AND MITIGATION MEASURES

Risk	Risk Mitigation Plan
Indigenous population in Côte Saint-Luc not known, difficult to find, potentially reluctant to engage with the City.	<ul style="list-style-type: none"> <li>• Make strong attempts through social media and print media to specifically invite Indigenous residents to a focus group.</li> <li>• Contact Mohawk Nation for community consultation.</li> </ul>
As the population being served is vulnerable, this raises issues regarding the quality of service delivery people going into their homes.	<ul style="list-style-type: none"> <li>• Do police checks on all hires.</li> <li>• Create language and use personality tests for service delivery people and ensure that employees receive customer service training related to seniors.</li> <li>• Create a training program for technical skills, since many of the technologies that will be applied are new.</li> <li>• Ensure that each service delivery person receives intensive training on VILLAGE privacy policies.</li> </ul>
The Societe d'habitation du Québec (SHQ) may refuse to expand the PAD program to include smart home devices, reducing accessibility of VILLAGE services.	<ul style="list-style-type: none"> <li>• Obtain letters of support that document the health and importance of the tech tools from our health and research partners and present them to the SHQ.</li> <li>• Produce a cost benefit analysis showing value of VILLAGE as it reduces costs for government health and social services.</li> <li>• If necessary, create public awareness campaign related to this.</li> </ul>

## APPENDICES

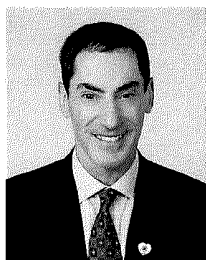
The following appendices contain additional information in support of the final proposal.

- Project team
- Letters of support from our partners
- Information and consent forms
- Example of activity report from pilot project
- Transcript and textual description of final video

## APPENDIX A PROJECT TEAM

The Smart Cities Challenge project team includes elected officials, city staff, and project-specific staff. The names listed here represent the key people, however, the team is grateful to other elected officials, staff, volunteers and external groups who participated in meetings leading to the preliminary proposal. The team also thanks the residents of Côte Saint-Luc who participated in focus groups and public consultations in person or online. Finally, we thank the pilot project participants.

**MITCHELL BROWNSTEIN**  
Mayor of Côte Saint-Luc



Mitchell Brownstein has been the Mayor of the City of Côte Saint-Luc since March 2016. Prior to that, he was a city councillor since 1990. He has played an active role in the Smart Cities Challenge, meeting with potential external partners, speaking at conferences, providing creative input for our video presentation and as the official spokesperson for all media interviews and promotion of our project.

**DIDA BERKU**  
City Councillor, City of Côte Saint-Luc



Dida Berku is an attorney. She has been elected six times to the city council starting in 1990. As the leader of the Smart Cities Challenge project committee, she has overseen the journey from the initial meetings on the preliminary proposal to the final proposal. She is also the council member responsible for Urban Planning, Citizen Engagement, Central City, and Transportation, and chairs the Planning Advisory Committee.

**MITCH KUJAVSKY**  
City Councillor, City of Côte Saint-Luc



Mitch Kujavsky is a city councillor in Côte Saint-Luc. First elected in 2017, he has been involved in the Smart Cities Challenge project since its conception. He is a member of the community engagement team, was involved in pilot project candidate selection, and acted as liaison between technology and social teams.

**TANYA ABRAMOVITCH**  
City Manager, City of Côte Saint-Luc



A librarian by professional training and former Director of the Côte Saint-Luc Public Library, Tanya is responsible for the overall administration of the city, in addition to other dossiers such as public spaces, transportation, public consultation, and policy-writing. She holds a BA and MA in History, a Master of

Library and Information Science, and a graduate certificate in Sustainable Urban Agriculture. Tanya is currently working on the city's strategic plan, a mobility strategy, and a neighbourhood development plan and is pursuing training in design thinking. Tanya played a leading role across all parts of our project including the creation of our vision for the VILLAGE Initiative, in particular around the definition and implementation of our strategies for social engagement and transformation during the finalist phase and in our final proposal.

**MARC CHRIQUI**  
Project and Technical Director

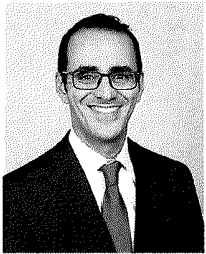


Marc was our Project and Technology Director during the finalist phase and led our initiatives around technology strategy, pilot implementation, partner relations, and final proposal preparation. A driven tech entrepreneur, Marc is the Founder and CEO of Delevante Software, a creator of

leading-edge technology platforms that drive connectiveness, engagement and commerce for local communities. Delevante is the developer of Numnu, a mobile app for consumer events such as fairs, festivals, and tradeshows. Marc is the former president of Raymark, a global enterprise retail software solutions vendor strategically acquired by Mi9 Retail in 2015. Marc has a Computer Engineering degree and more than 15 years experience as a technology and business leader across various industries including aerospace, invest

DAVID TORDJMAN

City Councillor, City of Côte Saint-Luc



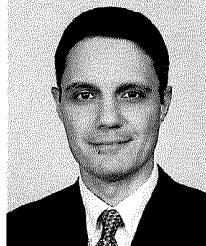
David Tordjman is a city councillor in Côte Saint-Luc. First elected in 2017, he is an engineer and formerly worked for the City as Director of Public Works and Engineering, which gives him knowledge about the workings of the city. He left the City to work for the United Nations in the relief and reconstruction of

Haiti following the devastating earthquake in 2010. He was the coordinator of engineering for the Cree Nation Government and is presently a consultant with Indigenous groups in Quebec.

DARRYL LEVINE

Director of Public Affairs, Communications and Information Technology

Darryl Levine has been on the Smart Cities Challenge team since the beginning. He and his team have helped produce in-house videos about the initiative, a website and updates on social media. He and his team have supported the final proposal process and helped ensure the document has a professional feel and design.



ERICA BOTNER

Community Engagement Coordinator, The VILLAGE Initiative



Erica Botner, MSc., is a Recreation Therapist and University Lecturer with 20+ years of leadership experience assessing, planning, implementing and evaluating large-scale and federally-funded programs and services for older adults and caregivers. Erica is known for her family-centerer, compassionate and

strengths-based approach to service delivery as well as her ability to provide opportunities for meaningful community engagement.

CHARLES GUERIN

Software Architect / CEO of On Board Data Services



Charles Guerin is a resident of Côte Saint-Luc. Charles was instrumental in the writing of the original proposal, helping to choose technologies and architect the technology plan. He runs his own company, which has designed many commercial software services for companies and government use including Ko-

dak, Fujitsu, Bombardier, Textron, Airbus and NATO. His company ensures that electronic flight documents reach thousands of flight operations around the world.

NATHALIE BIER

Associate professor in occupational therapy at the Université de Montréal  
J2 FRQS researcher at the Research center of the Institut universitaire de gériatrie de Montréal



The main goal of Dr. Bier's research program is to better understand the impact of cognitive deficits in aging and dementia on everyday function, as well as to develop non-pharmacological approaches to promote aging in place—such as the use of new technology. She is currently conducting many projects in the field of technology, including two major projects of smart homes to support home care services of persons with severe cognitive deficits (CIHR-NSERC, Brain Canada, Alzheimer International). She also conducted many projects on the use of mobile technology in aging and dementia (Alzheimer Society). For the present project, Dr. Bier will be responsible to coordinate the clinical and technological development, as well as the implementation and evaluation components of the projects, considering her expertise in designing and implementing

technology in ecological settings (living lab).

## APPENDIX B LETTERS OF SUPPORT

The following page of this appendix contain the letters of support from our partners. Here is a summary of the partners list.

### **Technology Partner**

- Delevante

### **Research Partners**

- Université de Montréal/Institut universitaire de gériatrie de Montréal
- Université de Sherbrooke/Laboratoire DOMUS
- Concordia University
- Age-Well NCE Inc.

### **Health Partners**

- Ministère de la Santé et des Services sociaux (Quebec Ministry of Health)
- Integrated Health and Social Services University Network for West-Central (CIUSSS West-Central Montreal)

### **Industry Partners**

- LAIPAC
- MEDTEQ
- Privacy and Access Council of Canada

### **Economic Development Partners**

- Agence OMETZ
- PME Centre-West

### **Community Partners**

- Cummings Center
- St Patrick's Square
- B'nai Brith Canada
- Borough of Île-Bizard—Sainte-Geneviève / City of Montreal



March 2, 2019

Mitchell Brownstein  
Mayor, City of Côte Saint-Luc  
5801 Cavendish Blvd.  
Côte Saint-Luc, Quebec  
H4W 3C3

Dear Mayor Brownstein,

There are no words to describe the deep gratitude and enthusiasm I feel for The VILLAGE Initiative and the great work we have done together thus far and aim to continue.

With each passing day of our collaboration during the Smart Cities Challenge finalist phase, we as a project team increasingly realized how important and profound our mission to help seniors was, far beyond merely a 'project'.

I recall being interested in the project during our first conversation last year as I was joining the team. As we submit our final proposal at the end of this incredible journey, I am now thoroughly convinced that we are in the midst of a national crisis, and that what we are aiming to achieve is in no way a nice-to-have, but rather thoroughly necessary and desperately wanted by seniors and their loved ones.

We were affected by many events over the past months around our mission. We deeply felt the tragic loss of a senior couple in our community from carbon monoxide poisoning in their home. The news of Gilles Duceppe's mother being stuck outside her residence in the freezing cold was beyond heartbreaking. These and other sad incidents we heard of would have been *completely avoided* had the simple connected technologies of our project been in place.

We also experienced great joy in seeing the incredible turnout and engagement of senior residents at our public consultations and focus groups. We heard about how some seniors had felt empowered enough to take matters into their own hands, acquiring and implementing technology solutions themselves to stay safe and connected, and

Delevante Software Inc.

delevante.net



advocating to others to do the same. As many have said to us repeatedly, they want to live in a Connected VILLAGE *yesterday*, and are counting the days.

I have been part of many, many technology ventures and projects in my career.

For me, this is not a place to share my own or my company's credentials. The matter of aging at home and in community is of critical, national importance, and it speaks for itself. This is about fundamental human principles of personal and community well-being, and in so many instances, about life and death. We are all aging and therefore we are all in this together. I am committed to continuing in my role as the technology lead of this Initiative and contributing my expertise and dedication to seeing it through.

As with others on the Smart Cities team, I feel that we did not choose the mission, the mission chose us - the mission chose Côte Saint-Luc.

Here's to continuing our purposeful journey together with The VILLAGE Initiative and to delivering much needed help for seniors and their loved ones in Côte Saint-Luc and across Canada.

Sincerely,



Marc Chriqui

Founder and CEO

Delevante Software Inc.

Delevante Software Inc.

[delevante.net](http://delevante.net)

Faculté de médecine  
École de réadaptation

Montréal, 23 février 2019

M. Mitchell Brownstein  
Maire, Ville de Côte Saint-Luc

Objet : Lettre de soutien au projet *The VILLAGE Initiative* dans le cadre du concours des villes intelligentes

---

Cher M. Brownstein,

La présente lettre est pour vous affirmer mon soutien indéfectible au projet *The VILLAGE Initiative*, mené par votre Ville. Depuis l'automne 2018, nous avons développé un partenariat solide, nous permettant d'accompagner la ville dans de nombreuses étapes de la mise en place de ce projet innovant. Tout au long de notre partenariat, j'ai pu observer et noter de nombreux éléments qui m'amènent à considérer ce projet comme l'un des plus prometteurs dans le domaine du bien-vieillir chez soi.

Tout d'abord, j'ai pu observer à travers des groupes de discussion focalisée que nous avons menés cet automne, mais aussi, via les nombreuses rencontres avec les employés de la ville et les conseillers municipaux, à quel point tous croient en ce projet et souhaitent joindre leurs forces pour réellement soutenir le vieillissement de sa population. Ainsi, le projet mobilise tous les acteurs de la Ville. Chacun se sent concerné par les aînés et souhaite trouver des solutions innovantes pour les soutenir. Cette mobilisation sans précédent me semble porteuse de succès pour que le projet de ville intelligente puisse s'actualiser.

Ensuite, j'ai pu également interagir de façon étroite avec l'équipe de gestion du projet, particulièrement lors de la réalisation du projet pilote. Cette équipe dynamique et engagée a su mobiliser les bons acteurs afin de créer un écosystème autour, et dans la ville, de personnes qui sauront mener le projet à terme. En plus de la recherche, l'équipe a su se joindre de nombreux organismes, mais également les aînés et leurs proches aidants qui ont répondu en grand nombre pour coconstruire le projet avec la Ville. Cette co-construction ardemment souhaitée par la Ville, et l'écosystème crée autour du projet, m'amènent à considérer la Ville comme un véritable laboratoire vivant; une infrastructure sociale et communautaire qui permettra l'émergence d'innovations par et pour les résidents de Côte Saint-Luc. Un laboratoire vivant permet ainsi d'être porteur de nombreux et futurs projets en collaboration avec les résidents, les employés, la communauté, l'industrie et la recherche.

Enfin, d'un point de vue de la recherche, ce projet est porteur de nombreuses innovations : technologiques, certes, mais aussi sociales. Ainsi, l'infrastructure technologique sera entourée d'une infrastructure humaine composée des aînées

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Télécopieur : 514-343-2105


**Faculté de médecine**  
École de réadaptation

eux-mêmes, de leurs proches, de la Ville et de ses employés, des organismes communautaires et privés et des services de santé et de services sociaux. Le travail en synergie de tous ces acteurs permettra d'assurer que les technologies sont intégrées harmonieusement dans la vie quotidienne des aînés, mais aussi dans la vie quotidienne de la Ville et de la communauté qui soutient les aînés.

Notre équipe assurera un soutien important dans l'élaboration de ces innovations, ayant nous-mêmes menés plusieurs projets similaires dans le domaine de la santé. À l'instar de ce que nous avons fait pour le projet pilote, nous saurons accompagner la Ville dans l'ensemble de ses démarches, allant du codéveloppement des solutions à la mesure des impacts de cette solution sur les plans sociaux, humains et économiques. En effet, nous avons développé une expertise spécifique dans le développement de technologies pour le maintien à domicile des personnes âgées. Notre expertise couvre le volet technologique, mais également, les volets couvrant les besoins sociaux et cliniques de cette population et la mise en place de processus d'implantation rigoureux. Nous pourrions également soutenir dans l'obtention de fonds de recherche qui soutiendront le fonds obtenu par Infrastructure Canada, en partenariat avec tous les acteurs de la recherche qui gravitent autour de ce projet. Enfin, nous accompagnerons l'équipe dans la rédaction d'un guide d'implantation d'une telle initiative, pour qu'elle puisse se transférer dans d'autres villes innovantes comme Côte Saint-Luc.

Ainsi, je crois que ce projet a le potentiel de réellement soutenir les aînés de la communauté et présente également un grand potentiel pour se transférer à d'autres villes similaires à Côte-Saint-Luc, qui souhaitent soutenir leurs aînés de façon « intelligente » et innovante.

Je vous prie d'agréer, M. Brownstein, l'expression de mes salutations distinguées,

 Nathalie Bier  
2019.02.24 11:23:18  
-05'00'

Nathalie Bier, erg., PhD.  
Professeure agrégée, École de réadaptation  
Faculté de médecine, Université de Montréal

Chercheuse boursière, Fonds de la recherche du Québec-Santé  
Centre de recherche de l'Institut universitaire de gériatrie de Montréal  
CIUSSS Centre-Sud-de-l'île-de-Montréal

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2



UNIVERSITÉ DE  
**SHERBROOKE**  
Laboratoire DOMUS  
Département d'informatique  
**Faculté des sciences**  
Sherbrooke (Québec)  
CANADA J1K 2R1

Sherbrooke, le 22 février 2019

M. Mitchell Brownstein  
Maire, Ville de Côte-Saint-Luc,  
5801 boul. Cavendish Blvd. Côte Saint-Luc, Québec,  
H4W 3C3 tél. : 514-485-6800

Objet : Lettre d'appui au projet The VILLAGE Initiative  
dans le cadre du concours canadien des villes intelligentes

Monsieur,

Le laboratoire DOMUS est heureux de collaborer au projet The VILLAGE que vous développez dans le cadre du concours canadien des villes intelligentes. Nous nous associons à votre démarche pour vaincre l'isolement des personnes âgées à domicile, en leur offrant un environnement plus sécurisant et mieux connecté avec la ville. Votre ville a démontré son intérêt à recourir aux nouvelles technologies de communication, de télévigilance et d'assistance afin de mieux soutenir les personnes en perte d'autonomie et ainsi d'intervenir pour faciliter leur participation sociale dans leur communauté.

Depuis 2002, le laboratoire DOMUS de l'Université de Sherbrooke développe des habitats intelligents pour faciliter le maintien à domicile des personnes âgées et des personnes fragilisées par des troubles cognitifs. Notre approche est interdisciplinaire, centrée sur la personne dans une perspective de laboratoire vivant et de conception participative : les personnes âgées et leurs proches sont considérés comme des partenaires à part entière et participent activement à l'orientation et à la conception des technologies. Nos technologies s'appuient sur l'Internet des objets, l'intelligence artificielle et les interfaces humains-machines avancées et adaptées aux besoins. Elles prennent des formes variées (réseaux de capteurs, applications mobiles, réalité augmentée...) et se veulent les plus discrètes possibles pour s'intégrer harmonieusement dans l'environnement social et physique pour compenser les incapacités dues au vieillissement, renforcer l'autonomie et favoriser le maintien à domicile. De plus, l'éthique, la protection des données et le respect de la vie privée sont au cœur de nos préoccupations et guident en tout temps nos décisions. Finalement nous sommes fermement convaincus qu'il doit toujours y avoir un humain au bout du système et qu'il faut s'appuyer sur les aidants et créer des réseaux d'entraide.

Par le passé, nous avons eu l'occasion de développer des projets de recherche sur la facilitation de l'organisation quotidienne, sur des plateformes de monitoring, d'accompagnement de nuit, sur le suivi et la réalisation des activités quotidiennes. Nos systèmes de télévigilance et nos assistants cognitifs sont installés, utilisés et validés en milieu réel, dans des domiciles ou des résidences pour personnes âgées. Par exemple, ils ont permis à des personnes avec des déficits cognitifs de cuisiner en toute sécurité chez elles ou encore aux services de santé de mieux évaluer les personnes dans leur milieu et de personnaliser en conséquence les services offerts, ce qui a prolongé leur maintien dans leur domicile pour longues périodes. Ceci nous a permis, d'une part, de constater le dynamisme et l'ouverture des participants âgés pour les nouvelles technologies et, d'autre part, de voir combien ces personnes âgées et leurs proches étaient engagés pour trouver des solutions pour le maintien dans leur lieu de vie.

Le projet que vous développez pour accompagner le vieillissement des citoyens et des citoyennes âgés de Côte-Saint-Luc trouve un fort écho dans les recherches que nous développons au laboratoire. Dans le cadre du concours canadien des villes intelligentes, nous pensons que les nouvelles technologies peuvent jouer un rôle important pour favoriser le maintien à domicile des personnes âgées de votre communauté en détectant les situations problématiques, en avertissant les personnes responsables, en renforçant le réseau d'entraide pour résoudre ces situations problématiques et en renforçant le lien entre les aînés et leur municipalité. Déjà, le projet pilote que nous avons mené ensemble a confirmé l'arrimage entre la Ville de Côte St-Luc et le laboratoire DOMUS. Nos rencontres avec vos citoyens âgés et l'installation de nouvelles technologies dans leur domicile a aussi confirmé qu'ils souhaitent les intégrer chez eux pour améliorer leur confort, leur sentiment de sécurité et être en meilleure connexion avec la ville.

Le laboratoire DOMUS est donc prêt à soutenir ce projet en engageant son expertise dans une démarche interdisciplinaire pour cerner les enjeux, élaborer des solutions appropriées et respectueuses et tester ces innovations sociales auprès des aînés. Le laboratoire DOMUS a un long historique de recherche participative, et cette recherche se situe donc dans cette lignée où les solutions seront élaborées avec les personnes âgées et la Ville de Côte-Saint-Luc pour s'assurer à toutes les étapes de la pleine collaboration de chacun. Concrètement, le laboratoire DOMUS s'engage à appuyer ce projet en participant, entre autres, aux activités suivantes :

- Préciser les enjeux en lien avec l'introduction de nouvelles technologies au domicile des personnes âgées;
- Proposer des solutions technologiques et des services innovants pour diminuer l'isolement;
- Évaluer l'amélioration de la qualité de vie des aînés et leur intégration au sein de la ville grâce à l'apport des technologies.

Nous partageons votre vision. La société canadienne et les villes doivent repenser leur rôle, imaginer de nouveaux services innovants et s'appuyer sur leurs communautés afin de permettre aux personnes âgées de vieillir harmonieusement en toute dignité dans leur milieu, quelles que soient leurs capacités physiques et cognitives.

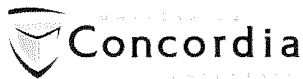
Veuillez agréer, Monsieur, l'expression de nos sentiments distingués.



Madame Hélène Pigot  
Professeure titulaire en informatique,  
Chercheuse au Laboratoire DOMUS  
Tel: (1)-819-821-8000, poste 63078  
Courriel :  
[helene.pigot@usherbrooke.ca](mailto:helene.pigot@usherbrooke.ca)



Monsieur Sylvain Giroux  
Professeur titulaire en informatique,  
Directeur du Laboratoire DOMUS  
Tel: (1)-819-821-8000, poste 62027  
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**OFFICE OF THE VICE-PRESIDENT,  
RESEARCH AND GRADUATE STUDIES**

Montreal, February 22, 2019

Mr. Mitchell Brownstein  
Mayor, City of Côte Saint Luc

RE: Smart City Challenge support letter to the City of Côte Saint Luc

Dear Mayor Brownstein,

Concordia University enthusiastically endorses the "Village" initiative of the City of Côte Saint Luc in the context of the Smart City Challenge of the Federal Government and recognises its major social, economic and scientific impacts for Canadians.

Through its Loyola Campus, Concordia is a neighbour of Côte Saint Luc and aging has been a cornerstone of our recent developments and clearly identified as a priority in our most recent strategic plan<sup>1</sup>. In its "Health Hub" strategic directions, Concordia offers communities deeply innovative approaches to health research, education, policy and technology and focuses on the full continuum of issues and interventions across disciplines.

Consequently, a partnership with the "Village" initiative is strategic and inspiring.

Concordia University is ambitious, innovative and research-engaged — cultivating next-generation talent that is focused on transformative learning, convergent thinking and public impact. Located in the heart of cosmopolitan Montreal, Concordia is recognized as Canada's top university under the age of 50 and one of the most international universities in the world<sup>2</sup>.

We have met with the Côte Saint Luc team and the following research centers will be mobilised to assist the realisation of a truly important project for communities across Canada and the world:

- Our engAGE<sup>3</sup> center regroups close to 40 high level researchers dedicated to quality of life for seniors. engAGE aspires to change how we think about aging. Through innovative, collaborative, interdisciplinary research, engAGE researchers work with older people and their communities to address challenges and facilitate opportunities in all realms of life: social, physical, cognitive, emotional, and political.

<sup>1</sup> [www.concordia.ca/about/strategic-directions/hubs/health.html](http://www.concordia.ca/about/strategic-directions/hubs/health.html)

<sup>2</sup> [www.topuniversities.com/university-rankings/top-50-under-50/2019](http://www.topuniversities.com/university-rankings/top-50-under-50/2019)

<sup>3</sup> [www.concordia.ca/research/aging.html](http://www.concordia.ca/research/aging.html)

engAGE brings together researchers from a broad range of disciplines, from fine arts, social sciences, communications, business, psychology and engineering, to explore creative ways and opportunities to study age and to enhance health and wellbeing across the life course. We work together with older people, community groups, health care practitioners, and industry partners to provide thoughtful analysis of the strengths and challenges that we experience in relation to age and then to suggest strategies for change.

- Our PERFORM<sup>4</sup> Centre, located a few steps from Côte Saint Luc, is a unique infrastructure and research platform, dedicated to new ways of researching better health through prevention. The concept is to rally together researchers from different fields of study, students and the local community, all within a modern clinical and fitness research facility with the intent of creating an environment that will foster the pursuit for healthier living. PERFORM's Heathy Living Program for Seniors' supports participants in acquiring the skills for a path to healthier living. This unique initiative is designed to help autonomous seniors – aged 65 years and older and receiving the guaranteed income supplement – in managing a healthier lifestyle through exercise and diet. During the six-month program, participants are learning to:
  - Discover new ways to keep strong and healthy
  - Shop for and prepare nutritious meals on a budget
  - Acquire the skills for an overall healthier lifestyle

Furthermore, Concordia is currently finalizing the nomination of a Canada Excellence Research Chair (CERC) in Smart, Sustainable and Resilient Communities and Cities<sup>5</sup> to head the transformative next-gen cities plan. The CERC appointments, which come with \$10 million dollars in funding spread over seven years, are among the most prestigious and generous academic awards available in the world. The program recruits world-renowned researchers and their teams to establish ambitious research programs at Canadian universities.

In addition, our Gina Cody School of Engineering & Computer Science is a leader in IT development, and in conjunction with our District 3 world class incubators, will provide Côte Saint Luc the most advanced technologies and talents to pursue its objectives of a smart city tailored to seniors.

Finally, Concordia is a founding partner of MEDTEQ, the Canadian reference in medical technology collaborative research: through our relationship with its large membership we can provide in kind resources, research grants and high leverage project structuring to offer multiple matching funding to the \$10 million award in the Smart City Challenge.

In conclusion, when Côte Saint Luc gets confirmation of its grant, we eagerly anticipate being with you at the starting gate to help insure scientific, community and economic impacts for Canadians through this bold and exciting project.

Concordia is thus committing its full support to the "Village" initiative, and looks forward to large-scale mobilisation of its unique talents and technology platforms for its success.

From prevention to big data insights to arts-based therapies, our researchers are harnessing the potential of treatments and technologies for better health for seniors and facilitating next-generation solutions to pressing issues facing cities around health and well-being.

Yours sincerely,



Christophe Guy, C.M., O.Q., Eng., PhD, FCAE, FEC  
VP, Research & Graduate Studies  
Concordia University





February 26, 2019

Mitchell Brownstein  
Mayor, Côte-Saint-Luc  
City of Côte-Saint-Luc  
5801 Cavendish Blvd.  
Côte Saint-Luc, Quebec  
H4W 3C3

Dear Mayor Brownstein:

On behalf of the AGE-WELL Network of Centres of Excellence I am pleased to offer this letter in support of your application from the City of Côte Saint-Luc's to the Smart Cities Challenge, The VILLAGE Initiative. Your proposal is very much aligned with the goals of the AGE-WELL Network of Centres of Excellence, with both of our organizations aimed at improving the safety, well-being, and social connectedness of seniors in their own communities and across Canada using emerging digital technologies.

AGE-WELL is Canada's technology and aging network. AGE-WELL is dedicated to the creation of technologies and services that benefit older adults and caregivers. Our aim is to help older Canadians maintain their independence, health and quality of life through technologies and services that increase their safety and security, support their independent living, and enhance their social participation. Our mission is to develop a community of researchers, older adults, caregivers, partners and future leaders that accelerates the delivery of technology-based solutions that make a meaningful difference in the lives of Canadians.

AGE-WELL has an extensive network of Member Universities and Research Centres, including more than 80 universities, 1000 researchers, and 280 industry and community partners. Our commitment to your proposal will be through providing access to our members, researchers, and stakeholders, and by providing your group with consultation on the various issues related to emerging technologies and smart cities.

Once again, I am pleased to offer AGE-WELL's support for this important initiative. We look forward to working with you and exploring your team and the City of Côte Saint-Luc becoming an integral piece of our AGE-WELL network.

Sincerely,

A handwritten signature in black ink, appearing to read "Alex Mihailidis".

Alex Mihailidis, PhD PEng  
Scientific Director & CEO  
AGE-WELL NCE Inc.  
Barbara G. Stymiest Research Chair in Rehabilitation Technology, Toronto Rehabilitation Institute,  
University Health Network/ University of Toronto  
Professor, Department of Occupational Science and Occupation Therapy  
University of Toronto

**AGE-WELL NCE Inc.**  
Toronto Rehab Institute  
University Health Network  
550 University Avenue  
Toronto ON, M5G 2A2  
[www.agewell-nce.ca](http://www.agewell-nce.ca)

**Dr. Alex Mihailidis**  
AGE-WELL Scientific Director  
[alex.mihailidis@utoronto.ca](mailto:alex.mihailidis@utoronto.ca)

**Dr. Andrew Sixsmith**  
AGE-WELL Scientific Director  
[sixsmith@sfu.ca](mailto:sixsmith@sfu.ca)

Ministère de la Santé  
et des Services  
sociaux

Québec

Direction générale adjointe des services sociaux  
et des services aux aînés

PAR COURRIER ÉLECTRONIQUE

Québec, 1<sup>er</sup> mars 2019

Monsieur Mitchell Brownstein  
Maire, Côte-Saint-Luc  
Ville de Côte-Saint-Luc  
5801, boul. Cavendish  
Côte Saint-Luc, Québec  
H4W 3c3

Monsieur Brownstein,

C'est avec un grand intérêt que le ministère de la Santé et des Services sociaux (MSSS) a pris connaissance du projet de Côte St-Luc puisqu'il tient compte du souhait de plusieurs personnes âgées, soit celui de demeurer à domicile en toute sécurité.

Parmi les nombreux services offerts aux aînés par le réseau de la santé et des services sociaux, les soins et services de soutien à domicile y ont une place prépondérante. À cet effet, votre projet s'inscrit en cohérence avec les orientations ministérielles du réseau de services intégrés pour les personnes âgées et est intégrateur des divers services qui sont offerts dans une communauté impliquée activement auprès de ses aînés.

Nous croyons également que les avancées technologiques en matière de soins de santé et de sécurité à domicile seront des atouts incontournables pour soutenir une offre de service pour les aînés du Québec.

Nous tenons donc à vous signifier l'appui du MSSS au projet et nous nous engageons par notre présence au comité de suivi ainsi que pour discuter des scénarios de pérennisation. Nous sommes convaincus que cette initiative novatrice saura contribuer de manière concrète et positive au mieux-être des aînés concernés.

Québec  
Édifice Catherine-De Longpré  
1075, chemin Sainte-Foy, 6<sup>e</sup> étage  
Québec (Québec) G1S 2M1  
Téléphone : 418 266-6855  
Télécopieur : 418 266-4572  
Adresse électronique : natalie.rosebush@msss.gouv.qc.ca

Veuillez agréer, Monsieur Brownstein, l'expression de nos sentiments les meilleurs.

La directrice générale adjointe,



Natalie Rosebush

c.c. Mme Lyne Jobin, MSSS  
M. Marc Chriqui, Innovatech

N/Réf. : 19-SS-00142

Centre intégré  
universitaire de santé  
et de services sociaux  
du Centre-Ouest-  
de-l'Île-de-Montréal



Hôpital général juif

CENTRE GÉRIATRIQUE  
DONALD BERMAN  
MAIMONIDES GERIATRIC  
CENTRE

February 22, 2019

CENTRE D'HÉBERGEMENT  
FATHER-DOWD  
RESIDENTIAL CENTRE

Mitchell Brownstein  
Mayor, Côte-Saint-Luc  
City of Côte-Saint-Luc  
5801 Cavendish Blvd.

CENTRE D'HÉBERGEMENT  
HENRI-BRADET  
RESIDENTIAL CENTRE

CENTRE D'HÉBERGEMENT  
ST-ANDREW RESIDENTIAL  
CENTRE

Côte Saint-Luc, Quebec  
H4W 3C3

CENTRE D'HÉBERGEMENT  
ST-MARGARET  
RESIDENTIAL CENTRE

Dear Mayor Brownstein:

CENTRE MIRIAM HOME  
AND SERVICES

I write on behalf of the Integrated Health and Social Services University Network for West-Central Montreal (CIUSSS West-Central Montreal) in strong support of the City of Côte Saint-Luc's Smart Cities Challenge proposal, The VILLAGE Initiative, aimed at improving the safety, well-being, and social connectedness of seniors in your community and across Canada using emerging digital technologies.

CENTRE DE RÉADAPTATION  
CONSTANCE-LETHBRIDGE  
REHABILITATION CENTRE

CENTRE DE RÉADAPTATION  
MAB-MACKAY  
REHABILITATION CENTRE

CHSLD JUIF DE MONTRÉAL  
JEWISH ELDERCARE  
CENTRE

The Integrated Health and Social Services University Network for West-Central Montreal (CIUSSS West-Central Montreal) is committed to providing healthcare recipients with timely access to a seamless continuum of care that focuses on individuals' particular needs. The area covered by our network is home to approximately 362,000 people, who are served by a partnership of more than 30 complementary healthcare facilities. Included are one of Quebec's leading hospitals (the Jewish General Hospital) and an interlocking array of three specialized hospitals, five CLSCs, two rehabilitation centres, four residential centres, two long-term geriatric residences, and two day centres. Treatment and care are provided by a staff of more than 10,000, including approximately 700 doctors. Of particular importance, it is noteworthy that CIUSSS Centre-Ouest is also responsible for all homecare services provided in Cote St. Luc.

CLSC DE BENNY FARM

CLSC DE CÔTE-DES-  
NEIGES

CLSC MÉTRO

CLSC DE PARC-  
EXTENSION

CLSC RENÉ-CASSIN

HÔPITAL CATHERINE  
BOOTH HOSPITAL

HÔPITAL GÉNÉRAL JUIF  
JEWISH GENERAL HOSPITAL

HÔPITAL MOUNT SINAI  
HOSPITAL

HÔPITAL RICHARDSON  
HOSPITAL

We believe that in the future, healthcare will increasingly become decentralized. Dependencies on hospitals will be reduced. The point of care will be wherever the patient is, whether at home, in community, or elsewhere. We also believe that Digital Health will continue to drive the way care is delivered and we will continue to see an increasing focus on prevention and prediction with the help of new and advanced technologies.

**Integrated Health  
and Social Services  
University Network  
for West-Central  
Montreal**

Côte Saint-Luc's VILLAGE Initiative would lay the digital foundation in which smart cities and healthcare providers could partner to deliver better patient care to the home and improve outcomes along the continuum of care. But this would not only improve care, but could for the first time actually begin to identify and preempt clinical problems before a patient would require treatment.

Page 1 de 2

Our collaboration would involve an advisory role for our organization in Côte Saint-Luc's program governance, alignment of our technology roadmaps, data integration aimed at augmenting Patient Health Records, information privacy protection measuring outcomes (including assuring data quality and validity), innovating to improve Trajectories of Care, and more.

We look forward to working with the City of Côte Saint-Luc's on your highly innovative and exciting initiative, which will continue to strengthen our ongoing partnership and improve the well-being of our shared population in ways that will be impactful and long-lasting.

Sincerely,



**Lawrence Rosenberg, MD, CM, MSc, PhD, MEng, FRCSC, FACS**  
Président-Directeur général / President and CEO  
CIUSSS du Centre-Ouest-de-l'Île-de-Montréal | Integrated Health and  
Social Services University Network for West-Central Montreal  
Professeur titulaire en chirurgie et médecine, Professor of Surgery and Medicine  
McGill University

Page 2 de 2

Centre intégré  
universitaire de santé  
et de services sociaux  
du Centre-Ouest-  
de-l'Île-de-Montréal

Québec

Hôpital général juif

CENTRE GÉRIATRIQUE  
DONALD BERMAN  
MAIMONIDES GERIATRIC  
CENTRE

CENTRE D'HÉBERGEMENT  
FATHER-DOWD  
RESIDENTIAL CENTRE

CENTRE D'HÉBERGEMENT  
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RESIDENTIAL CENTRE

CENTRE D'HÉBERGEMENT  
ST-ANDREW RESIDENTIAL  
CENTRE

CENTRE D'HÉBERGEMENT  
ST-MARGARET  
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HÔPITAL CATHERINE  
BOOTH HOSPITAL

HÔPITAL GÉNÉRAL JUIF  
JEWISH GENERAL HOSPITAL

HÔPITAL MOUNT SINAI  
HOSPITAL

HÔPITAL RICHARDSON  
HOSPITAL

Integrated Health  
and Social Services  
University Network  
for West-Central  
Montreal

Le 22 février 2019

Mitchell Brownstein  
Maire, Côte-Saint-Luc  
Ville de Côte Saint-Luc  
5801, boul. Cavendish  
Côte Saint-Luc, Québec  
H4W 3C3

Monsieur le Maire,

Je vous écris au nom du Centre intégré universitaire de santé et de services sociaux du Centre-Ouest-de-l'Île-de-Montréal (CIUSSS du Centre-Ouest-de-l'Île-de-Montréal) pour vous manifester notre soutien entier au projet de la ville de Côte-Saint-Luc pour le Défi des villes intelligentes, l'initiative VILLAGE; celle-ci vise à accroître la sécurité, le bien-être et les contacts sociaux des aînés dans votre communauté et dans tout le Canada à l'aide des technologies numériques émergentes.

Le CIUSSS du Centre-Ouest-de-l'Île-de-Montréal s'engage à offrir aux bénéficiaires de soins de santé un continuum de soins, en temps opportun, afin de répondre aux besoins particuliers de chacun. Ce réseau dessert quelque 362 000 personnes, en partenariat avec plus de 30 établissements de soins complémentaires. On y retrouve l'un des principaux hôpitaux du Québec (l'Hôpital général juif) et un ensemble interrelié de trois hôpitaux spécialisés, cinq CLSC, deux centres de réadaptation, quatre centres d'hébergement, deux résidences gériatriques de soins de longue durée et deux centres de jour. Les traitements et les soins sont assurés par plus de 10 000 personnes, dont environ 700 médecins. Il convient en outre de noter que le CIUSSS du Centre-Ouest-de-l'Île-de-Montréal est responsable de tous les services de soins à domicile fournis à Côte-Saint-Luc.

Nous croyons que les années à venir seront marquées par une décentralisation des soins de santé. Nous serons de moins en moins dépendants des hôpitaux. Le point d'intervention se situera au lieu où se trouve le patient, y compris chez lui et dans sa communauté. Nous croyons aussi que les services de santé numériques continueront de révolutionner la façon dont les soins sont prodigués, et que les progrès technologiques nous permettront de mettre encore plus l'accent sur la prévention et la prédiction.

L'initiative VILLAGE de Côte-Saint-Luc jetterait les bases numériques d'une collaboration entre les villes intelligentes et les fournisseurs de soins de santé, qui nous permettrait de fournir de meilleurs soins à domicile et d'améliorer les résultats tout au long du continuum de soins. Non seulement les soins en seraient améliorés,

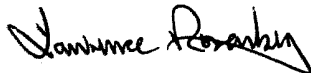
Page 1 de 2

mais pour la première fois, nous pourrions identifier et régler les problèmes cliniques avant que le patient ait besoin de traitement.

Notre collaboration supposerait notamment un rôle de conseiller pour notre organisation dans la régie du programme de Côte-Saint-Luc, l'harmonisation de nos plans technologiques, l'intégration des données dans le but d'étoffer les dossiers médicaux des patients, l'évaluation de l'incidence sur la protection des renseignements personnels (y compris la vérification de la qualité et de la validité des données) et des innovations visant à améliorer les trajectoires de soins.

Nous nous réjouissons à l'idée de collaborer avec la ville de Côte-Saint-Luc sur cette initiative des plus novatrices et stimulantes, qui consolidera davantage notre partenariat et améliorera le bien-être de notre population commune concrètement et durablement.

Je vous prie d'agréer, Monsieur le Maire, mes salutations distinguées.



**Lawrence Rosenberg, MD, CM, MSc, PhD, MEng, FRCSC, FACS**  
Président-Directeur général / President and CEO  
CIUSSS du Centre-Ouest-de-l'Île-de-Montréal | Integrated Health and  
Social Services University Network for West-Central Montreal  
Professeur titulaire en chirurgie et médecine, Professor of Surgery and Medicine  
McGill University



## Laipac Technology Inc.

Locate to protect

Feb. 26 2019

Dear Mayor Mitchell Brownstein:

We are writing on behalf of Laipac Technology Inc. located in Richmond Hill Ontario. We strongly support the City of Côte Saint-Luc's Smart Cities Challenge proposal, The VILLAGE Initiative, aimed at improving the safety, well-being, and social connectedness of seniors in our community and across Canada using data and connected technologies. Laipac Technology Inc. has designed and manufactured mobile Healthcare and Internet of Things products since 1999 and has exported to over 100 countries. Laipac is also an award-winning company with the following accolades;

- "German Design Award Special" by German Design Council 2019
- "Ontario Exporter of the Year" by Export Development Canada 2018
- "Innovator of the Year Award" by Richmond Hill, Ontario 2018
- "Best Security Product Accolades" by ASIS International 2010 & 2011
- CEO named as 50+ leaders by GPS World magazine 2007
- CEO nominated for Canadian Pioneer Award by TD Bank 2006
- "Best Export Company", by Richmond Hill, Ontario 2005

Laipac has strong financial support and record. Here are some of Laipac's corporate experience and track record for our technology commercialization:

- TRIMBLE INC., USA- Laipac provided over 10,000 IoT devices and IoT platform for real time monitoring of expensive optical survey equipment.
- HYUNDAI & KIA, QUITO, ECUADOR- Laipac provided over 80,000 vehicle tracking devices and IoT platform for insurance program
- PEMEX, MEXICO- Laipac provided over 8,000 vehicle tracking devices for oil & gas truck monitoring.
- AIRBUS SPACE & DEFENSE- Laipac provided over 10,000 vehicle tracking devices for public safety application of AIRBUS.
- GSM GPS TRACK, ALGERIA- Laipac provided over 2,000 vehicles tracking devices and IoT platform for fleet management projects.

20 Mural St. Unit 5 Richmond Hill Ontario L4B 1K3 Canada

Tel: 905-7621228 Fax: 905-7631737

E-mail: [info@laipac.com](mailto:info@laipac.com) <http://www.laipac.com>





## Laipac Technology Inc.

Locate to protect

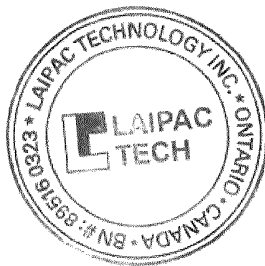
- GEO & LOGIC, Dubai, U.A.E.- Laipac provided over 5,000 vehicles tracking devices for fleet management projects
- MEDIC ALERT, ONTARIO, CANADA- Laipac provided S911 Lola and LocationNow platform for elderly care real time care and monitoring
- RIYAD BANK and NCB BANK, SAUDI ARABIA- Laipac provided LocationNow platform and 5,000 IoT devices for ATM monitoring.
- MINISTRY OF HEALTH, MOSCOW, RUSSIA- Laipac provided over 8,000 SOS devices for independent living of elderly in Moscow.
- MINISTRY OF JUSTICE, INDONESIA- Laipac provided over 1,000 electronic monitoring bracelets for house arrest project.

And many other projects of elderly care and PERS (Personal Emergency Response Service). Some reference documents are also attached together with this letter.

We were happy to provide our smartwatch solution and work with Côte Saint-Luc during your pilot project. Should the city be a winner in the Smart Cities Challenge, we would welcome the opportunity to collaborate further on a broader rollout that would meet your program vision and resident needs. We will support the advancement of Côte Saint-Luc's Smart Cities Challenge project through whatever means are available to us and look forward to growing and strengthening our partnership with the City. Thank you for this opportunity.

Sincerely,

Diego Lai / CEO



20 Mural St. Unit 5 Richmond Hill Ontario L4B 1K3 Canada  
Tel: 905-7621228 Fax: 905-7631737  
E-mail: [info@laipac.com](mailto:info@laipac.com) <http://www.laipac.com>



**MEDTEQ**  
L'INNOVATION POUR LA SANTÉ  
INNOVATION FOR HEALTH

February 22, 2019

M Mitchell Brownstein

Mayor, City of Côte Saint Luc

**RE: Smart City Challenge support letter to the City of Côte Saint Luc**

Dear Mayor Brownstein,

MEDTEQ is proud to support your "Village" project in the context of the Smart City Challenge of the Federal Government and pledges its commitment to ensure this initiative is a true Canadian collaborative project that delivers tangible impacts to communities across Canada.

MEDTEQ is the Industrial Consortium for Research and Innovation in Medical Technologies, which accelerates the collaborative development of innovative technologies for clinicians and patients, their validation and integration into Canadian and international health networks.

Started in the province of Quebec 6 years ago with the support of the Ministère de l'Économie et de l'Innovation, MEDTEQ federates close to 170 members, most of whom are SMEs, but also multinationals, start-ups and many research institutes and university hospitals. Since its creation, MEDTEQ supports more than 70 research / validation projects involving around 225 researchers, 250 students, 85 SMEs, 21 multinationals, for a total value of projects of over \$ 60 million.

In 2017, MEDTEQ was awarded the mandate of a Center of Excellence for Commercialisation of Research (CECR) supported by the federal government with a 19.5 M\$ budget for the next 5 years. This leadership mandate gives latitude and means to support the integration across Canada of medical health technologies, in key priority sectors such as aging, by providing direct funding to innovative companies and institutions at the final stages of development of innovative products and services.

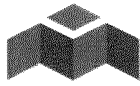
MEDTEQ's strategy is to accelerate the transformation of the health sector by deploying a fast-tracked adoption program for Canadian medtech innovations by and in collaboration with clinical sites and key strategic projects in Canada with institutions such as the Côte Saint Luc Challenge and large international Life Sciences Clusters internationally.

The aging population is a fast-growing reality for every developed country around the world and Canada is no exception. The increasing proportion of seniors relative to the active workforce represents a society challenge that traditional health networks can not address alone, thus the implication of Smart Cities, the active involvement of communities and the mobilisation of our best talents and innovative technologies.

In the last year, members of MEDTEQ have launched several strategic projects that aim at integrating the Internet of Things, artificial intelligence and human performance enhancement technologies to develop new solutions to foster autonomy and a quality of life for seniors and their care takers. This mobilisation includes companies, universities, public and private institutions, philanthropic foundations, community

1/2

740, rue Notre-Dame Ouest  
Bureau 1400 Montréal (Québec)  
H3C 3X6 Tél. (514) 398-0896  
info@medteq.ca



**MEDTEQ**  
L'INNOVATION POUR LA SANTÉ  
INNOVATION FOR HEALTH

organisations and young entrepreneurs. In our last MEDTEQ SUMMIT in January, aging and community involvement in the future of health care were highlighted as key drivers of our industry.

Our belief is that Canadian talents and entrepreneurs in partnership with our public health care system and communities, can develop and implement substantial cost savings solutions for the well-being and health of seniors and their families, and in parallel generate economic value and quality job creation for the Canadian medtech industry, positioning Canada as a global leader in solutions for aging.

In this context MEDTEQ applauds the Village Initiative of the City of Côte Saint Luc and is keen to mobilise the resources of its national and international membership. If the City of Côte Saint Luc's application to the Smart City Challenge is successful, MEDTEQ's support would take several forms:

- contributions of in-kind expertise via MEDTEQ staff and resources for the structuring of eligible collaborative projects as well as project management support.
- cash contributions, in accordance with the MEDTEQ process and the rules of engagement of its programs supported by the Quebec Government, to support projects for validation and evaluation of innovative health technologies. This financial support from MEDTEQ for collaborative projects with industry can represent a direct contribution of up to \$ 500,000 per project year over three years (maximum \$ 1.5M per approved project).
- In addition, based on our unique track record, for every dollar invested in a qualified MEDTEQ project by the Village Initiative, we can generate with qualified members a leverage of up to 4 times this investment. Considering that most of the 10 million \$ award from the Smart City Challenge could constitute eligible R&D activities, we can foresee a major opportunity to leverage your project.
- direct financing in bold game changing SMEs, in conjunction with other corporate financing and in connection with the implementation of the projects in the Network, still in accordance with the consortium's current program rules (maximum of \$ 1M for the MEDTEQ tranche in a syndicated round of financing).

Concordia University's Center for Research on Aging (EnGage) and PERFORM Center, the Institut universitaire de gériatrie de Montréal and the Le laboratoire Domus of the University of Sherbrooke are indicative of the strength of MEDTEQ's membership for this initiative; in addition, national organisations such as Agewell and MITACS and international institutions such as the Sheba Institute in Tel Aviv are qualified partners that could be mobilised for this project.

We strongly support the candidacy of Côte Saint Luc and are anxious to launch a productive collaboration for the benefit of all Canadians.

Sincerely,

\_\_\_\_\_  
Diane Côté  
CEO  
MEDTEQ Consortium

e here]

2/2

740, rue Notre-Dame Ouest  
Bureau 1400 Montréal (Québec)  
H3C 3X6 Tél. (514) 398-0896  
info@medteq.ca



**Privacy & Access Council of Canada**  
Conseil du Canada de l'Accès et la vie Privée

21 February 2019

Mayor Mitchell Brownstein  
City of Côte Saint-Luc  
5801, boul. Cavendish Blvd.  
Côte Saint-Luc QC H4W 3C3

Dear Mayor Brownstein:

The increasing presence of “smart” technologies in homes and urban landscapes offers great potential that, if implemented with sufficient and mindful forethought, can provide important benefits for individuals, communities, governments, healthcare systems, and national economies. The mechanics, ethics, privacy-related issues, and unintended consequences of “smart” technologies have been the topic of great discussion among the Board and members of the independent, national, non-profit, non-partisan, and non-government *Privacy and Access Council of Canada* (PACC).

PACC is the voice for privacy and access in Canada, and the certifying body representing leadership and excellence in information privacy, access to information, and data governance. Its members across the public, private, and non-profit sectors represent a cross-section of the many disciplines involved in data protection including privacy, access, compliance, law, government, security, ethics, academia, and public policy.

Given the potential privacy risks that can arise from implementing “smart” technologies, I would like to as a director of PACC, offer the association's support to the City of Côte Saint-Luc's efforts to develop the VILLAGE initiative in a way that genuinely respects privacy. Our confidence in the City's approach is in large measure because you involved Sharon Polsky as your privacy advisor in the project. Sharon has a deep understanding of the multidisciplinary complexities inherent in data privacy and information governance.

As her colleague on the Board of Directors of the PACC since 2007, I am keenly aware that Sharon's expertise relating to the intersection of privacy, law and technology are exceptional. Her grasp of privacy implications that laws and technologies have upon individuals and organizational information governance is evident in the testimony she has given before Senate Standing Committee hearings and in her submissions to the Information Commissioner of Canada and to Legislative Standing Committees. Her insight is also embodied in the governing documents that describe the generally accepted levels of knowledge and skill, and the ethical standards and conduct that define the Information Privacy and Access to Information profession. Sharon's acuity was also recognized in 2012 when she was appointed by the Information and Privacy Commissioner of Ontario to be a Privacy by Design Ambassador. Her views are frequently sought by clients, media, and conference organizers.

I am confident that, by implementing all of the recommendations and adhering to the advice given by Ms Polsky, the City will be able to leverage “smart” technologies in a way that produces an enduring and worthwhile Smart Cities Challenge program that serves people, avoids creating a surveillance environment or monetizing individuals' data, and fosters ongoing trust in the City.

With that in mind, the Privacy and Access Council of Canada is pleased to offer its ongoing support of the City of Côte Saint-Luc as it develops its VILLAGE initiative to provide an intelligent, robust, and privacy-sensitive solution that facilitates continued safe and independent living by Canada's rapidly aging population.

Sincerely,

Eric Lawton MAPP  
Director of Professional Certification

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Privacy and Access Council of Canada — Conseil du Canada de l'Accès et la vie Privée  
Suite 330, Unit 440 | 10816 Macleod Trail SE | Calgary AB Canada T2J 5N8 | 877.746.PACC | 877.746.7222



February 14, 2019

Katherine Korakakis  
Agence Ometz  
5151 Côte Ste-Catherine Road,  
Montreal, Québec  
H3W 1M6

Dear Mayor Mitchell Brownstein:

We are writing on behalf of the OMETZ. We support the City of Côte Saint-Luc's Smart Cities Challenge proposal, The VILLAGE Initiative, aimed at improving the safety, well-being, and social connectedness of seniors in our community and across Canada using data and connected technologies.

Our organization is committed to providing counselling coaching and guidance to entrepreneurs and job seekers and has been providing services to community for over 150 years.

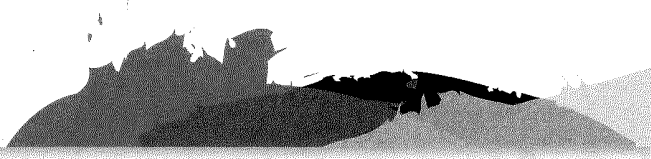
At OMETZ we are very familiar with the City as this is our target clientele as we service the island of Montreal and have close working relationship with the City in our employment and entrepreneur programs.

If the City of CSL becomes a winner of the Smart City Challenge and proceeds with this project we will be more than happy to assist in the recruiting and training of staff and employees who qualify under the CEB criteria. We will assist in the recruitment and procurement opportunities for the qualified candidates who fall in the groups, identified in the CEB program that is women; persons with disabilities; youth; recent immigrants; and small, medium businesses, and social enterprises. We do have experience in working and promoting diversity and inclusion in recruiting candidates for jobs and social enterprises. Last year 1,820 job seekers used Ometz services, online and in person, to find suitable employment opportunities, 785 mature workers learned new skills essential to succeeding in the changing job market and 124 people with disabilities found jobs, maintained employment or returned to school, 437 people received advice on starting their own business and 125 new entrepreneurs developed their ideas into viable businesses with the help of the accelerator program. Ometz is accredited by the Ministère de l'Immigration, de la Diversité et de l'Inclusion (Quebec's Ministry of Immigration) to provide these settlement and integration support services to new Immigrants.

We will support the advancement of Côte Saint-Luc's Smart Cities Challenge project through whatever means are available to us and look forward to growing and strengthening our long-lasting partnership with the City.

Sincerely,

Katherine Korakakis  
Manager of Entrepreneurship





CENTRE JUIF CUMMINGS POUR AÎNÉS  
CUMMINGS JEWISH CENTRE FOR SENIORS

February 27, 2019

Mitchell Brownstein  
Mayor, Côte-Saint-Luc  
City of Côte-Saint-Luc  
5801 Cavendish Blvd  
Côte-Saint-Luc QC H4W 3C3

Dear Mayor Brownstein:

On behalf of Cummings Centre, we strongly support the City of Côte Saint-Luc's Smart Cities Challenge proposal, The VILLAGE Initiative, aimed at improving the safety, well-being, and social connectedness of seniors in our community and across Canada using data and connected technologies.

The Cummings Centre is an organization whose mission is to empower and enhance the quality of life of adults age 50 and over by providing dynamic and innovative programs, social services, and volunteer opportunities in a vibrant, respectful, inclusive and compassionate environment. Building on its Jewish heritage, Cummings Centre embraces people from all ethnic and socio-economic backgrounds. Our mission aligns well with that of the Côte-Saint-Luc's Smart Cities Challenge proposal, and thus fully supports this new initiative.

Cummings Centre is very familiar with the City of Côte-Saint-Luc as a large number of our members and volunteers reside in this borough. The Cummings Centre and the City of Côte-Saint-Luc have successfully partnered together to support the Drop-in Program for seniors with memory loss and/or Dementia, as well as offering new art programs available to seniors. This innovative program can only strengthen our relationship and continue providing tailored activities responding to the needs of our senior population.

If the City of Côte-Saint-Luc is approved for the Smart City Challenge and proceeds with this innovative program, we will be more than happy to assist in areas that would best meet our mission and scope of our services, utilizing our expertise in the areas of aging related to volunteerism, programs and social services.

Sincerely,

Pauline Grunberg  
Executive Director

AT THE CENTRE OF IT ALL | AU CENTRE DE VOTRE VIE  
5700, avenue Westbury Avenue, Montréal (Québec) H3W 3E8  
Tél. 514.342.1234 Fax. 514.739.6899  
www.cummingscentre.org





**NATIONAL OFFICE/Bureau national**

ALAN GLEICKSMAN & MORRIS CHICK BUILDING Envelope Alan Gleicksmann & Morris Chick  
CHARLES GUTHRIE ST. HUMAN RIGHTS CENTRE Centre des droits de la personne Charles Guthrie

Mayor Mitchell Brownstein,  
Côte Saint-Luc City Hall  
5801 boul. Cavendish Blvd.  
Côte Saint-Luc, QC H4W 3C3

February 26, 2019

Dear Mayor Mitchell Brownstein,

We are writing on behalf of our organization B'nai Brith Canada. We all strongly support the City of Côte Saint-Luc's Smart Cities Challenge proposal, The VILLAGE Initiative, aimed at improving the safety, well-being, and social connectedness of seniors in our community and across Canada using data and connected technologies.

We are committed to providing a better quality of life to seniors such as our Sunday morning senior brunches. These programs offer them and their children/caregivers a much-needed atmosphere of food, entertainment and interface with other seniors who would otherwise be shut in with no place to go. Most of the seniors we serve are at least occasional, if not active, users of the City of Côte Saint-Luc's many services and facilities. Therefore, we are excited at the prospect of furthering our Côte Saint-Luc seniors' connections to the City while enabling them to age effectively in place.

We will support the advancement of Côte Saint-Luc's Smart Cities Challenge project through whatever means are available to us and look forward to growing and strengthening our long-lasting partnership with the City.

Sincerely,

Michael Mostyn,  
Chief Executive Officer  
B'nai Brith Canada



15 Hove Street • 15 rue Hove, Toronto, Ontario M5H 4Y8  
416-635-0224 • Fax: 416-630-2159 • Email: boba@bnaibrith.ca • www.bnaibrith.ca



March 1, 2019

Adam Patone  
St Patrick Development Foundation  
6767 Cote St-Luc Road  
Cote St-Luc, Quebec

Dear Mayor Mitchell Brownstein:

I am writing on behalf of the St Patrick Development Foundation and our building famously known as St Patrick Square. We strongly support the City of Côte Saint-Luc's Smart Cities Challenge proposal, The VILLAGE Initiative, aimed at improving the safety, well-being, and social connectedness of seniors in our community and across Canada using data and connected technologies.

Here at the Square, we are committed to providing a safe high-quality, community environment aimed at independent seniors who are looking for a home. We have 252 apartments filled with seniors, all of which are proudly live here at the Square. Our long and rich history is a testament to the quality of our mission, and the involvement of our tenants. Our residents are as unique as they are active. Most of our residents are at least occasional, if not active, users of the City of Côte Saint-Luc's many services and facilities. Therefore, we the administrators are excited at the prospect of furthering our residents' connections to the City while enabling our residents to age effectively in a place they love. We have active volunteers who have installed a variety of smart products in their homes to be used in the development of information for this pilot project. We are currently looking to contribute as much information as we can to help the city in its mission to implement a connected framework, leveraging smart devices and related technologies. This will empower seniors to live more safely, independently, and longer in their homes, be better connected to their communities and city services, and be more socially engaged, improving overall well-being and quality of life for older adults, and reducing stress on families and caregivers, the healthcare system, and long-term care facilities.

We will support the advancement of Côte Saint-Luc's Smart Cities Challenge project through whatever means are available to us and look forward to growing and strengthening our long-lasting partnership with the City.

Sincerely,

Adam Patone  
Director of Administration  
St-Patrick Development Foundation  
6767 Cote St-Luc Road  
Cote St-Luc, Quebec H4V 2Z6

**ST. PATRICK DEVELOPMENT FOUNDATION**  
6767 Cote St. Luc Road | Suite 1 | Cote St. Luc, Quebec | H4V 2Z6  
t 514-481-9609 | f 514-481-0350 | e info@spsquare.ca





Bureau du maire  
Arrondissement de L'Île-Bizard—Sainte-Geneviève  
350, montée de l'Église  
Île-Bizard (Québec) H9C 1G9

Le 27 février 2019

M. Mitchell Brownstein  
Maire de Côte-Saint-Luc  
5801, boul. Cavendish  
Côte-Saint-Luc (Québec) H4W 3C3

Objet : Lettre de soutien Défi Ville Intelligente

À titre de maire de l'arrondissement de L'Île-Bizard—Sainte-Geneviève à Montréal, il me fait plaisir de signifier notre appui à la Ville de Côte Saint-Luc, dans le cadre du Défi Ville Intelligente. Le projet "The VILLAGE initiative" constitue un exemple inspirant d'engagement à l'égard de nos citoyens vieillissants afin de leur assurer des milieux de vie toujours plus sécuritaires, sains et branchés à la collectivité et ce pour le bien-être de tous.

La démarche de la Ville de Côte Saint-Luc témoigne de l'importance du leadership exercé par des décideurs du milieu municipal afin de favoriser l'amélioration de la santé de la population. À titre informatif, plus de 60% des déterminants de santé et de bien-être relèvent de la qualité de l'environnement social et économique et de l'environnement physique des individus. L'implication des gouvernements de proximité peut contribuer à générer des impacts positifs sur ces déterminants. Ainsi, ils se doivent d'articuler leur vision et d'aligner leurs actions afin de contribuer à la santé collective.

À l'instar de la Ville de Côte Saint-Luc, l'arrondissement de L'Île-Bizard—Sainte-Geneviève a aussi engagé son leadership dans une réflexion similaire visant l'amélioration de la santé populationnelle. La mairie réunit actuellement des parties prenantes dans un mandat de mise en commun d'expérience et d'expertise du milieu. Cette approche contribuera à l'émergence de l'intelligence collective au bénéfice de la santé de sa communauté de personnes âgées.

Dans l'éventualité d'une victoire de la Ville de Côte Saint-Luc, notre arrondissement ainsi que nos groupes de travail, seraient honorés de pouvoir collaborer avec celle-ci à d'éventuelles plateformes de transférabilité de savoir-faire technologique.

L'arrondissement de L'Île-Bizard—Sainte-Geneviève serait en effet capable d'offrir à la Ville de Côte Saint-Luc un milieu dont la maturité citoyenne et communautaire pourrait faciliter les échanges pouvant éventuellement mener à l'adaptation, au transfert et à l'accueil du projet VILLAGE.

1. En comprenant le portrait populationnel lié au vieillissement auquel la population est toujours confrontée en dépit des ressources existantes.

2. En articulant les travaux d'un comité santé L'Île-Bizard—Sainte-Geneviève, en partenariat avec le réseau communautaire, municipal, de la santé, scolaire, sécurité publique et autres.
3. En contribuant à une réflexion collective de concert avec les partenaires, afin de comprendre les besoins, les risques et les opportunités en lien avec le vieillissement de la population.
4. En se donnant des orientations ayant comme objectif de favoriser la qualité de vie de la population, dans un contexte de rôle complémentaire.

Ainsi, ensemble et dans l'esprit d'un leadership municipal, nous pourrions agir comme catalyseurs de la vision portée par Infrastructure Canada dans son objectif de soutien aux collectivités et vers un futur où tous les canadiens pourront vivre au sein de "Villes Intelligentes".

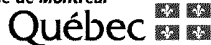
En réitérant tout notre soutien à l'égard de la Ville de Côte Saint-Luc, veuillez accepter nos meilleures salutations.



Normand Marinacci LL. L.  
Maire d'arrondissement  
L'Île-Bizard—Sainte-Geneviève

# APPENDIX C INFORMATION AND CONSENT FORMS

Centre intégré  
universitaire de santé  
et de services sociaux  
du Centre-Sud-  
de-l'Île-de-Montréal



Comité d'éthique de la recherche vieillissement-neuroimagerie

Centre intégré  
universitaire de santé  
et de services sociaux  
de l'Estrie – Centre  
hospitalier universitaire  
de Sherbrooke



Centre intégré  
universitaire de santé  
et de services sociaux  
du Centre-Ouest-  
de-l'Île-de-Montréal



## Information and consent form

<b>Title of the research project :</b>	Home care for vulnerable older adults: co-design and deployment of technology solutions in a living laboratory.
<b>Investigator in charge of the project:</b>	Nathalie Bier, Ph. D., Centre de recherche de l'UQM.
<b>Co-investigator:</b>	<ul style="list-style-type: none"> <li>Patricia Belchior, Ph. D., Centre de recherche de l'UQM, Université McGill</li> </ul>
<b>Research coordinator :</b>	<ul style="list-style-type: none"> <li>Maxime Lussier, Ph. D., Centre de recherche de l'UQM, Université de Montréal</li> </ul>
<b>Funding organizations:</b>	<ul style="list-style-type: none"> <li>Canadian Institut of Health Research</li> <li>Natural sciences and Engineering Research Council of Canada</li> </ul>
<b>Participating institutions:</b>	<ul style="list-style-type: none"> <li>CIUSSS Centre-Sud-de-l'Île-de-Montréal.</li> </ul>

### 1. Introduction

We are inviting you to participate in a research project. However, before accepting to participate in this project and signing this information and consent form, please take time to read, understand and consider carefully the following information.

This form may contain words that you do not understand. We are inviting you to ask the principal investigator in charge of the project or any members of the research project staff, any questions you feel are useful for you and ask them to explain any word or information that is not clear.

### 2. Nature and purpose of the research project

The aim of this project is to develop and implement technologies to support the participation in activities of daily living and aging in place of older adults with a loss of autonomy.

New technologies refer to any device that can receive and share information with a computer; for example, a smartphone, an electronic tablet or a motion detector. More specifically, the aim of this project is to:

- 1) Identify what can support or impair day-to-day activities of older adults who are having difficulties living at home;
- 2) Identify existing technologies and new technologies that can be developed to support these activities;
- 3) Identify the perceptions about technology of all stakeholders involved in home care, i.e. managers, professional caregivers, caregivers and seniors themselves.
- 4) Document stakeholders' interest in the technology the willingness to accept it in their home or work environment;
- 5) Evaluate whether existing technologies, installed in the home, can help support the performance of certain daily living activities in older adults living at home.

For the realization of this research project, we intend to recruit about 300 participants, men and women, aged 21 and over. More specifically, we plan to recruit managers, program managers, professional caregivers, seniors and their immediate caregivers that receive services from the CIUSSS or home support from other organizations or entities.

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### 3. Implementation of the research project

#### 3.1 Nature of the older adults' engagement.

##### □ 3.1.1 Focus Groups

This part of the research project consists of focus groups with older adults who wish to share their perspectives on the needs of seniors for home care. This will allow us to better understand the needs and to see if technologies can support these needs (objectives 1 to 4). The participation consists of a meeting in small group or in an interview, of about 1h30, in your choice of location. There will be an audio recording of the focus group to allow the transcription of the discussion and facilitate the analysis of the data.

##### □ 3.1.2 Deployment of technologies

This research project will take place at your home, over a total period of approximately 12 to 18 months. Your participation will consist of:

- Two to four sessions during which you will take quizzes and tests on your memory, your attention and how you perform your activities of daily living;
- An hour-long interview, with or without your caregiver, during which we will ask you questions about how you perceive your functioning at home, what helps you and what can be difficult for you. We will also ask your opinion on the usefulness of some existing technologies that could help you in your daily life.
- Another one-hour session will then be held to take tests and quizzes about your day-to-day functioning before installing technologies at your home. Note that a Videotron installer will install an internet connection that will only be used for the purposes of the research project, in the presence of a member of the research team. This installation will be free and you will not pay a subscription fee. At the end of the project, if the technology stays in your home, you will not pay any fees either. If the technology needs to be removed, the internet connection will be uninstalled.
- We will install technologies free of charge in your home with your agreement and will come once or twice a week to show you how they work and to help you understand their use.

We could come from 5 to 20 times, depending on your needs. These technologies will depend on your specific needs identified during the interviews, but could include:

- a diary to help you remember your appointments and your medication;
- motion detectors installed on the walls that can alert a professional caregiver if you ever have a problem, etc.

During one of these meetings, we will do another test session to determine your ability to carry out your activities. An assistant could also come to your home or call you in case of malfunction of the technology;

- Finally, you will participate in another interview and another test session about 1 month after the installation of the technologies at your home, and then every 3 months until about 18 months after the installation of the technologies, for a total of about 7 meetings.

The sessions will be recorded in audiovisual form, to allow the transcription of the exchanges and facilitate the analysis of the data. Photos of your apartment will also be taken to plan the installation of sensors with the research team.

In addition, we will need access to your medical file to obtain information about your past and present health.

#### 3.2 Caregivers' involvement

##### □ 3.2.1 Focus Groups

This part of the research project consists of focus groups with caregivers who want to share their daily life with their loved ones. This will allow us to better understand the need for home support services and to see if the technologies can support these needs (Objectives 1 to 4). The participation consists of a meeting in small group or in an interview, about 1h30, in the location of your choice. The session will be audio recorded, to allow the transcription of the exchanges and facilitate the analysis of the data.

### □ 3.2.2 Deployment of technologies

This research project will take place at your relative's home, for a total period of approximately 18 to 24 months. Your participation will consist of:

- An hour-long interview, with or without your loved one, during which we will ask you questions about how you perceive your loved one's functioning at home, what helps him or her and what can be difficult to him / her. We will also present some existing technologies that could help your loved one in his daily life to have your opinion on their usefulness.
- We will install technology free of charge in your loved one's home, as well as a free internet connection that will only be used for the research project, and will come once or twice a week to show how they work. We will meet you during one of these sessions to show you their use. These technologies will depend on the needs identified during the interviews, but could include:

- a diary to help remember appointments and taking medication;
- motion detectors installed on the walls that can alert a professional caregiver if your loved one has a problem, etc.

During this time, you may have to go to your relative's home if there are any changes in technology, malfunctions, or alerts. However, we cannot predict the number of trips;

- Lastly, you will participate in a maximum of 7 other interviews, one during the technology installation period and another interview about 1 month after the installation of the technologies in your loved one's home, then all three. months to a maximum of 18 months.

The sessions will be recorded in audiovisual form, to allow the transcription of the exchanges and facilitate the analysis of the data.

### 3.3 Access to technology and long-term project realization.

In the event that we demonstrate that the technologies used in this research project can help you and your caregiver in your daily life, you may be able to keep these technologies at home after the end of the project, as well as the internet connection, linked to the project. However, this decision will be made in consultation with everyone involved in the project.

In the event that the technology remains installed in your home, the research team or one of its representatives may contact you (eg every three months) to continue the evaluation of these technologies via the same questionnaires and interviews presented above, as long as you live in your home.

### 3.4 Use of audiovisual recordings

The primary goal of audiovisual recordings is to allow us to review the sessions in order to better analyze the different data.

In addition, with your consent, these audio-visual recordings could be used for study purposes, teaching, research or scientific conferences. Your face will be visible on audiovisual recordings, but it will never be associated with your name.

Do you accept that your audiovisual recordings are used for study purposes, teaching, research or scientific conferences? □ Yes □ No

### 4. Incidental finding

Although they are not subject to a formal medical assessment, the results of any tests, exams, and procedures that you will have to do during your participation in this project may reveal problems that were not previously known; this is what is called an incidental finding. That is why, in the presence of a particular feature, the principal investigator in charge of the project will provide a follow up by calling you or by notifying the professional or organization that follows you in order for them to ensure a follow-up.

### 5. Benefits associated with the research project

You may derive a personal benefit from your participation in this research project but we cannot assure it.

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Moreover, the results obtained will contribute to the advancement of scientific knowledge in this field.

## 6. Disadvantages associated with the research project

In addition to the time spent participating in this research project and traveling, there are no disadvantages to participating in this research project.

## 7. Voluntary participation and possibility to withdraw

Your participation in this research project is voluntary. You are therefore free to refuse to participate. You can also withdraw from the project at any time, without having to give any reasons, by informing the investigator in charge of the project or a member of his research staff.

The investigator in charge of the research project, the Comité d'éthique de la recherche vieillissement-neuroimagerie or the funding organization may end your participation, without your consent, if new discoveries or information indicate that your participation in the project is no longer in your best interest, if you do not follow the instructions of the research project or if the project is abandoned for administrative reasons.

If you withdraw or if you are withdrawn from the project, the information and the material already obtained as part of this project will be retained for as long as necessary to ensure to meet the regulatory requirements.

Any new knowledge acquired during the course of the project that may affect your decision to continue to participate in the study will immediately be communicated to you.

## 8. Confidentiality

During your participation in this research project, the investigator in charge and his research staff will collect your information in a research file. Only the information necessary to meet the scientific objectives of this project will be collected.

This information may include information contained in your medical records regarding your past and present health, lifestyle, and the results of any tests, examinations and procedures that will be performed. Your file may also include other information such as your name, gender, date of birth and ethnicity.

All information collected will remain confidential within the limits set by law. In order to preserve your identity and the confidentiality of this information, you will be identified only by a code number. The code key linking your name to your research file will be retained by the investigator in charge.

The investigator in charge of this project will use the data for research purposes in order to meet the scientific objectives of the project described in the Informed Consent Form.

The research data may be shared with other researchers. This transfer of information means that your research data may be passed on to countries other than Canada. However, in all countries, the investigator in charge of the research project will observe the confidentiality rules in force in Quebec and Canada.

Moreover, your personal information, such as your name and your contact information, will be kept on file by the investigator in charge and his research for 5 years after the end of the project. After this time, the information will be destroyed.

For purposes of monitoring and control, your research file and your medical records may be consulted by a person authorized by the Comité d'éthique de la recherche vieillissement-neuroimagerie or by a person appointed by authorized public bodies. All these individuals and organizations adhere to a confidentiality policy.

You have the right to access your research file in order to check the information collected and to correct it if necessary, for as long as the investigator in charge of this project holds such information.

## 9. Secondary use of your research data.

Do you consent to have your research data used by the principal investigator in other research projects, on topics including the neuroscience of aging, or to promote general health and healthcare?

Any such future research projects will be evaluated and approved by the Comité d'éthique de la recherche

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vieillessement-neuroimagerie before they can be carried out. Your research data will be kept safely in the secured servers of the IUGM Research Centre. To protect your identity and privacy of your research data, you would only be identified by a code number.

Your research data will be preserved as long as they may have potential use to advance scientific knowledge. When they are no longer useful, your research data will be destroyed. Moreover, you may request the no utilization of your research data at any time by contacting the principal investigator of this research project.

Do you accept the use of your research data under these conditions? ☐ Yes ☐ No

#### 10. Participation in future studies

Do you agree to allow the principal investigator or a member from the research project team to call you to invite you to participate in a future research project? Of course, if ever you are invited to participate in a new research project, you will be free to accept or decline the proposal. ☐ Yes ☐ No

#### 11. Possibility of marketing

The research results stemming from your participation could lead to the creation of commercial products. However, you will not receive any financial benefit from such activities.

#### 12. Funding of the research project

The Investigator in charge of this study has received funding from funding organization to successfully complete this research project.

#### 13. Compensation for harm

Should you suffer any injury whatsoever due to your participation in the research project, you will receive all of the care and services required by your health condition.

By agreeing to participate in this project, you do not waive any of your rights and you do not release the investigator in charge of this study, nor the funding organization and the hospital from their civil and professional liability.

#### 14. Procedures in cases of medical emergency

Please note that this research project does not replace emergency health services or other health and social services. In addition, this research project and the researchers who lead it are not part of an acute care hospital center that provides emergency services and relies on the presence of a local health professional, all the time. Thus, the researchers in this research project cannot ensure the safety of the participants 24 hours a day. In case of an emergency, you must use the medical services according to the usual procedures.

#### 15. Identification of contact persons

If you have questions about the research project or if you have any problem that you believe is connected to your participation in this research project, you can contact the principal investigator of the research project, Nathalie Bier, at 514.343.6564.

For any questions about your rights as a subject participating in this research project or if you wish to make any complaints or comments, you can contact the quality and complaints commissioner of the the service quality and complaints commissioner of the CIUSSS Centre-Sud-de-l'Île-de-Montréal at 514.593.3600.

#### 16. Monitoring ethical aspects of the research project

The Comité d'éthique de la recherche vieillissement-neuroimagerie has approved and will monitor the research project, for participating institutions in the réseau de la santé et des services sociaux du Québec.

For any information, you can contact the secretariat of the Committee at 514.527.9565, ext. 3223 or by email at the following address: [karima.bekhiti.ccsmtl@ssss.gouv.qc.ca](mailto:karima.bekhiti.ccsmtl@ssss.gouv.qc.ca)

## Consent

### Title of the research project:

Maintien à domicile des personnes âgées vulnérables : co-conception et déploiement de solutions technologiques dans le cadre d'un laboratoire vivant/ *Home care for vulnerable older adults: co-design and deployment of technology solutions in a living laboratory.*

### 1. Participant consent

I have read the Informed Consent Form. I acknowledge that the project has been explained to me, that my questions have been answered and that I have had the time needed to make a decision.

I agree to participate in this research project under the conditions set out in this Informed Consent Form. A signed and dated copy of this Informed Consent Form has been given to me.

I authorize the research team to access my medical file.

\_\_\_\_\_  
Signature of the participant

\_\_\_\_\_  
Date

### 2. Signature of the person who obtained the consent, if different from the investigator in charge of the research project.

I have explained to the research subject the terms of this Informed Consent Form and I have answered all the questions he/she asked me.

\_\_\_\_\_  
Signature of the person who obtained the consent

\_\_\_\_\_  
Date

### 3. Signature and commitment of the investigator in charge of the project

I hereby certify that the terms and conditions of this Informed Consent Form have been explained to the research participant, that the questions that the research participant had in this regard have been answered and that he has clearly been told that he remains free to terminate his participation, and without prejudice.

I hereby undertake, with the research team, to abide by what has been agreed in the Informed Consent Form and to give a signed copy of this form to the research participant.

\_\_\_\_\_  
Signature of the principal investigator of this research project

\_\_\_\_\_  
Date

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## VILLAGE Smart Cities

# Pilot Project — Consent to Participate

The City of Côte Saint-Luc (CSL) is a finalist in the Government of Canada's Smart Cities Challenge. The Challenge is an effort to have communities across Canada use technology in innovative ways to improve the lives of Canadians.

CSL has identified several technologies that exist or can be adapted to improve safety and peace of mind — for you and the people who care about you — and enable you to continue living independently and autonomously, for as long as possible.

CSL will be conducting a Pilot Project, starting in December 2018, to gauge how well the technologies might work to meet those goals, and is pleased that you have volunteered to participate.

TECHNOLOGY/DEVICE	PURPOSE
Smart watch	<ul style="list-style-type: none"> <li>• Cell phone and text messaging</li> <li>• Cell phone, WiFi and Bluetooth communications</li> <li>• In-app messaging and reminders</li> <li>• Location tracking inside/outside the home</li> </ul>
Pressure sensors	<ul style="list-style-type: none"> <li>• Household routines</li> <li>• Fall detection/failure to get up</li> </ul>
Temperature	<ul style="list-style-type: none"> <li>• Household temperature</li> <li>• Bath/shower water temperature</li> </ul>
Moisture sensors	<ul style="list-style-type: none"> <li>• Water leaks</li> <li>• Bath water levels</li> </ul>
Motion sensors	<ul style="list-style-type: none"> <li>• Unusual activity/inactivity</li> <li>• Increased night-time activity or changes in sleeping patterns</li> <li>• Prolonged or late-night external door open</li> <li>• Reduced use of domestic appliances</li> <li>• Extended shower/bath time</li> <li>• Reduced contact (social isolation warning)</li> </ul>
Safety lighting	<ul style="list-style-type: none"> <li>• Nighttime illumination to reduce risk of falling</li> </ul>
Technology hub	<ul style="list-style-type: none"> <li>• Event/response tracking</li> <li>• Automated emergency contact (police, fire, EMS, vCop, relative friend)</li> </ul>

Participating in the VILLAGE Smart Cities Pilot Project is an opportunity to help the City of Cote Saint-Luc help residents enjoy independent and safe living in their own surroundings.

### I consent to participate in the Cote Saint-Luc VILLAGE Smart Cities Pilot Project and I acknowledge the following:

- |  |  |
|--|--|
| 1. Participating in the VILLAGE Smart Cities Pilot Project is entirely voluntary   | <ul style="list-style-type: none"> <li>• I may elect at any time to withdraw from the VILLAGE Smart Cities Pilot Project.</li> <li>• I may turn off any device, or block any audio or visual recording.</li> </ul>   |
| 2. All devices and services used in the VILLAGE Smart Cities Pilot Project are for demonstration and evaluation purposes only. | <ul style="list-style-type: none"> <li>• <b>Emergency services <u>WILL NOT</u> be contacted, even if a device issues a notice or alert.</b></li> <li>• Technologies used during the Pilot Project might not identify Medical conditions or emergencies</li> <li>• If an emergency occurs, it will be my responsibility to get help.</li> </ul> |

## Pilot Project — Consent to Participate

### I consent to participate in the Cote Saint-Luc VillAGE Smart Cities Pilot Project and I acknowledge the following:

3. The privacy of my personal and health information collected and used in VillAGE Smart Cities Pilot Project is governed by Quebec's privacy law — <i>An Act Respecting Access to Documents Held by Public Bodies and the Protection of Personal Information</i> .	<ul style="list-style-type: none"> <li>The City of Cote Saint-Luc will be making its best efforts to protect the information collected during the pilot project, but unauthorized access to my personal information is a possibility.</li> </ul>
4. Data, video and audio recording, collected by the devices used in the VillAGE Smart Cities Pilot Project is intended to be shared with the City of Cote Saint-Luc and members of its VillAGE Smart Cities Pilot Project team.	<p>Information collected or created from my participation in the VillAGE Smart Cities Pilot Project (including video and audio recordings):</p> <ul style="list-style-type: none"> <li>WILL NOT be made available to any party involved in a civil or administrative proceeding</li> <li>MAY BE DISCLOSED to address concerns relating to my health, safety, or welfare but is not required to be disclosed for that purpose.</li> <li>Selected video and audio recordings may be used for promotional purposes and may be included in video and/or hard-copy promotional material that will be part of the City's submission for the Smart Cities Challenge; and it will be viewed by the jury and the public.</li> </ul>
5. Academic researchers involved in the VillAGE Smart Cities Pilot Project will contact me directly.	<ul style="list-style-type: none"> <li>Researchers who wish to collect data and information will contact me directly to request my consent to participate in their research</li> </ul>
6. The devices used during the VillAGE Smart Cities Pilot Project are owned by the City of Cote Saint-Luc.	<ul style="list-style-type: none"> <li>Devices used in the VillAGE Smart Cities Pilot Project might (or might not) be made available for purchase after the Pilot Project has ended.</li> </ul>
7. The City of Cote Saint-Luc will be responsible for the cost of acquiring, installing, maintaining, and removing technologies used during the Pilot Project.	<ul style="list-style-type: none"> <li>I will be responsible to reimburse the City of Cote Saint-Luc for the cost of any devices that I use during the VillAGE Smart Cities Pilot Project that are lost or stolen.</li> </ul>
8. The devices and technology used in the VillAGE Smart Cities Pilot Project might be connected to the Internet.	<ul style="list-style-type: none"> <li>Technology devices used during the Pilot Project might not operate as anticipated, and might fail.</li> <li>I will be responsible for the cost of telephone, Internet access, and data charges incurred by me during the Pilot Project.</li> </ul>

I have read this consent to participate in the City of Cote Saint-Luc VillAGE Smart Cities Pilot Project. I understand the risks and benefits of the Project. Any concerns and questions I had about the Project have been addressed in an understandable manner.

I, \_\_\_\_\_, consent to participate in the City of Cote Saint-Luc VillAGE Smart Cities Pilot Project under the conditions outlined above.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Dear <insert name>

The City of Cote Saint Luc is working with a research team from the Geriatric Institute of Montréal in order to implement a Pilot Project as part of the Smart Cities Challenge. Two members of this team will come to your home on <Insert Date>. **Maxime** will be responsible for the installation of the sensors that compose the smart environment that is currently being developed. **Aline** will be there to 1) explain how the technology works, 2) ask you some questions about your routine, and 3) answer your questions. This visit should last around 2h30m.

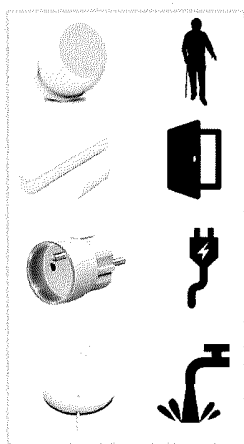
#### Before the visit

Before the visit, we need you to have **your Wi-Fi network name and password** to connect the technology we are installing to our servers. Be reassured, this technology requires very little internet bandwidth and will not slow down your internet.

#### During our visit

Everything will be explained in detail during the visit, but here is a quick overview of what is going to happen.

First, we will install a small box like this one? and connect it to your modem/router. When we are finished, this box can remain discretely tucked behind furniture. **It is very important that you leave it where it is and please do not unplug it.**



Second, we will install **motion** sensors in most of the rooms of your home. These sensors detect if there is a person in the room, and also the temperature and luminosity of a room.

Third, we will install **contact** sensors several doors (e.g., entrance door, refrigerator door, drawer of clothing, food cabinets, etc.). These sensors detect if a door is closed or open.

Fourth, we will install a few **electric** sensors on some appliances (microwave, coffeemaker, television, etc.). These sensors detect the electrical consumption of the appliances.

Finally, in some instance, we will install **water** sensors in the sink or the bath. These sensors detect if they are wet or not.

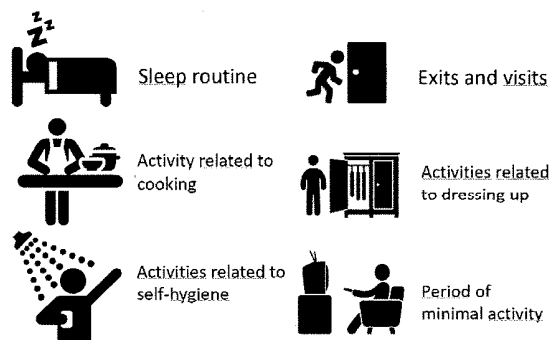
We will try to make the sensor as non-invasive and as subtle as possible. The sensors work on batteries, so we do not need to run wires thorough



your home. Also, be reassured that no image or sound is recorded by the technology, simply the state of the sensors.

### What do sensors do?

The sensors allow the system to understand where you are in your home and whether you are doing any basic activity of daily living such as sleeping, cooking, answering the door, etc. Simply, put, the system aims at better understanding your daily routine.



### Why are we interested in this information?

The system is still in development but knowing the routine of people living alone can lead to important outcomes. First, health practitioners can have a better idea of your health simply by knowing how regularly you eat, sleep, go out, etc. But even more interesting is to know how these habits change over time. Do you wake up more often or earlier? Do you go out less or cook less? In the present project, this information will not be shared with any medical staff, but you are helping us perfect this technology so that it can be a new tool for health practitioners in the future.

Second, we also wish for the system to be able to send alerts in case of a dangerous situation, for example if a person has not moved in a room for several hours or if an oven burner has been working without supervision for several minutes. This may help to promote independent living in a secure environment. Again, during this pilot project, nobody will receive an alert with the system you currently have, but you are helping us develop such a technology.

Finally, we will want to know more about your experience cohabiting with the technology.

### What's next?

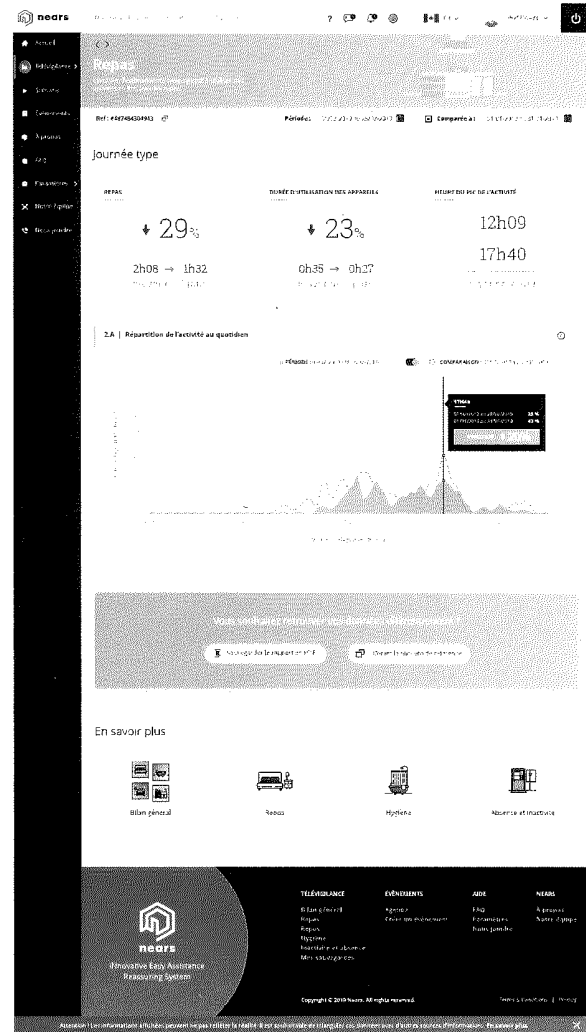
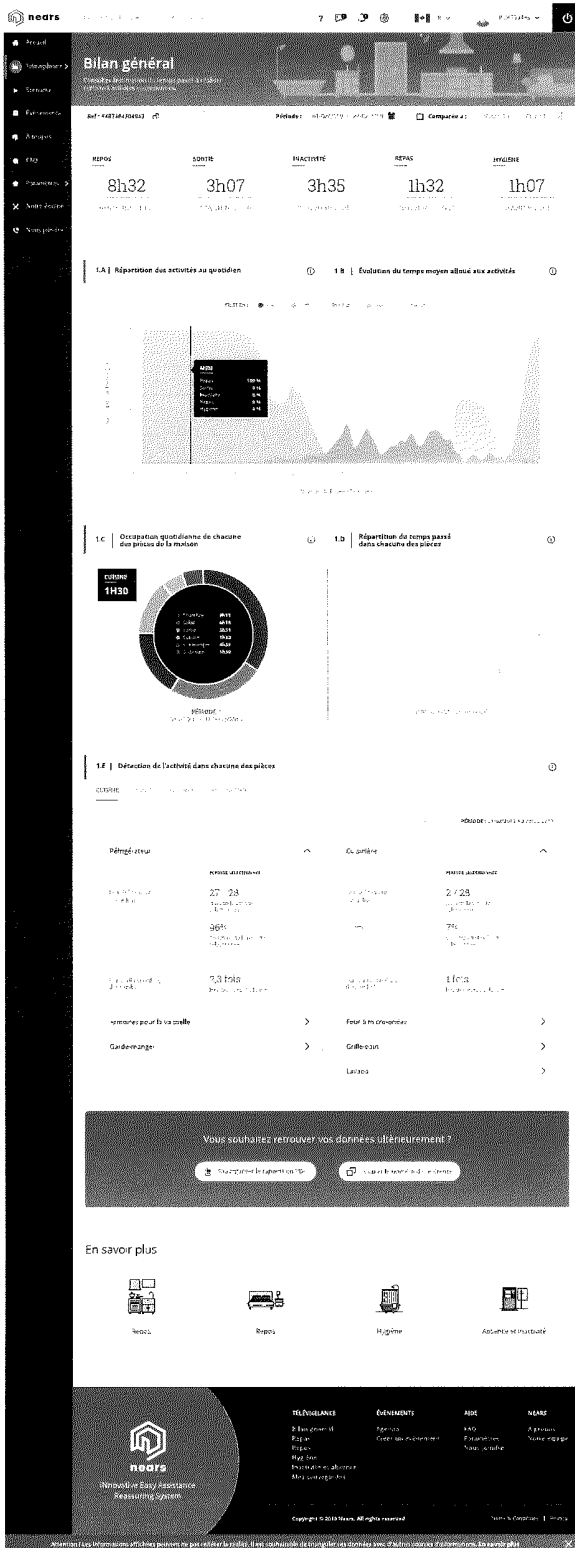
Following this first visit, another member from our research team, **Hubert**, will schedule a visit with you to install the second half of the technology we are using for this project: the Alexa interactive virtual assistant. Further details will follow. Occasionally, we might also come back to change batteries or recalibrate a sensor. We will always contact you before doing so to schedule a convenient time.

### Contact information

If you are experiencing any trouble with the technology, if you have any questions regarding the Cote Saint Luc Smart Cities Challenge or this pilot project please contact Erica Botner at [ebotner@cotesaintluc.org](mailto:ebotner@cotesaintluc.org) or 514-452-6472.

Thank you for your participation!!

# APPENDIX D EXAMPLE OF REPORT FROM PILOT PROJECT



## APPENDIX E TRANSCRIPT AND TEXTUAL DESCRIPTION OF FINAL VIDEO

**Text on screen:** The City of Côte Saint-Luc presents

**Image on screen:** 1960s home movie showing grandfather, family gathering

**Mayor Mitchell Brownstein, Côte Saint-Luc:** You know, my grandfather always told me that he grew up in a small village. And in that small village, his job was to take the hot cooked meal that his mom made and bring it to his grandfather.

**Text on screen:** Our vision for the Smart Cities Challenge

**Image on screen:** 1960s home movie showing grandfather, family gathering

**Mayor Mitchell Brownstein, Côte Saint-Luc:** They were taken care of by their children and grandchildren, living in three generational homes. That's something that we lost. And the Smart Cities Challenge basically is to bring that back from technology.

**Text on screen:** The VILLAGE Initiative

**Image on screen:** Modern image of a street in Côte Saint-Luc

**Tanya Abramovitch, Côte Saint-Luc City Manager:** When we speak to the residents about this project they are really, really excited.

**Image on screen:** Image of large banquet hall with 100+ people around round tables.

**Tanya Abramovitch, Côte Saint-Luc City Manager:** We did a public consultation and we asked them to draw their Care Map.

**Image on screen:** Images of hand-drawn stick figures on white paper

**Tanya Abramovitch, Côte Saint-Luc City Manager:** Basically, you draw yourself in the middle and put who in your entourage will come and help you if there something wrong. Who will know if something happens to you? And some of them had grandkids, kids, friends, and all sorts of people.

**Image on screen:** Image of hand-drawn stick-figure image of people all alone

**Tanya Abramovitch, Côte Saint-Luc City Manager:** And then there's one in particular that I remember, there was little stick figure and a sad face and a big tear and it said Nobody. And yet this person still had enough hope and trust to come to a consultation because they believe that something can change for them. And this is why we are going this.

**Words and image on screen:** City Hall, Côte Saint-Luc

**Mayor Mitchell Brownstein, Côte Saint-Luc:** Côte Saint-Luc is the greatest place in the world to live, I believe.

**Image on screen:** Video from 1960s and 1970s of crowd of people gathered in park plaza, high school football practice with school in background, man and woman joggers run by, smile, and wave to the camera. Parents and children go by in wagon at winter festival in park.

**Tanya Abramovitch, Côte Saint-Luc City Manager:** There's a personal touch, there's a community touch.

**Image on screen:** Side of EMS first responder vehicle

**Mayor Mitchell Brownstein, Côte Saint-Luc:** We have over 500 volunteers that help in so many of our different programs. Which makes our city unique and great.

**Image on screen:** Mothers and toddlers at a city program

**Mayor Mitchell Brownstein, Côte Saint-Luc:** In Côte Saint-Luc, 30 percent of the population is seniors.

**Tanya Abramovitch, Côte Saint-Luc City Manager:** Where the rest of Canada is going, we have been for decades.

**Image on screen:** City bus pulling away from stop

**Dida Berku, City Councillor:** We are now the living lab for the future.

**Image on screen:** Mail truck drives by. City street sign.

**Mayor Mitchell Brownstein, Côte Saint-Luc:** And, so what we do here in Cote Saint-Luc will help all cities throughout the country.

**Image on screen:** Outdoor pool. Swimmers swimming laps. Books on library shelves.

**Dida Berku, City Councillor:** The city is in the business of delivering service. We do it well but it's not enough.

**Tanya Abramovitch, Côte Saint-Luc City Manager:** The society that we live in is not designed for seniors.

**Dida Berku, City Councillor:** And that became our challenge.

**Image on screen:** Duplex

**Marc Chriqui, Project Director, The VILLAGE Initiative:** We will implement a connected framework that will enable seniors to live more independently in their homes and communities such as motion sensors, a fall detection device, our connected mobile app, and more.

**Text on screen:** Université de Montréal Research Lab, Montréal, QC

**Image and text on screen:** An apartment living room. A kitchen with overlap text labels: Connected home: Smart Home Automation, Voice Assistance, Passive Devices, Sim-

ple Touch Interfaces, Connected VILLAGE Apps.

**Text and image on screen:** Air Quality, Motion Detection, Heat Detection, Smart Stove, Door Sensor, Touch interface

**Words and image on screen:** Water Detection

**Marc Chriqui, Project Director, The VILLAGE Initiative:** Say you live alone. You may only have limited resources for help. The connected VILLAGE allows you to access resources when you need them.

**Text and image on screen:** Increased Connectedness Though The VILLAGE App

**Image on screen:** Person at centre of Care Map. Landline phone: 911 and daughter, Home Device: Voice Assistance

Marc Chriqui, Project Director, The VILLAGE Initiative: Imagine getting out of bed at night and having the lights turn on automatically, reducing your risk of injury.

**Image on screen:** Woman walking in a dark room and a strip of LED lights along the bottom of the wall goes.

**Text on screen:** Automated lighting

**Marc Chriqui, Project Director, The VILLAGE Initiative:** What if you're walking outside and happen to fall? A simple wearable could monitor the situation and trigger an alert to city services, or even better to someone who might be physically closest to you in the moment and can respond to you quickly.

**Image on screen:** Smart Watch

**Text on screen: Wearables:** Fall Detection, Voice Assistance, SOS Button, GPS Positioning, Vitals Monitoring.

**Image on screen:** Person at centre of Care Map. Landline phone: Friend, 911 and daughter. Home Device: Voice Assistance, Wearable: SOS Button, Vitals Monitoring, Fall Detection

**Marc Chriqui, Project Director, The VILLAGE Initiative:** Or perhaps you left the stove on.

**Text and image on screen:** Smart Stove

**Text and image on screen:** Hot Element Alert

**Marc Chriqui, Project Director, The VILLAGE Initiative:** A level of response could be anything from a device that automatically shuts it off, to a call to check in on the situation making sure that you and the residents around you are safe and sound.

**Image on screen:** Person at centre of Care Map. Increased Connectedness Though The VILLAGE App. Wearable: SOS Button, Vitals Monitoring, Fall Detection; Home Device: Voice Assistance, Superintendent, Passive Monitoring, Alerts, vCOP; Mobile Phone: Neighbour, Grandchild, Transport, Caregiver, VILLAGE App; Landline Phone: Friend, 911, Daughter]

**Marc Chriqui, Project Director, The VILLAGE Initiative:** The

connected VILLAGE could also help you with your social engagement. You could receive reminders of upcoming activities at the library or local theatre. And even arrange for a lift. All of this could be made part of your personalized plan in the Connected VILLAGE.

**Image on screen:** Senior lady waving at her daughter via video conferencing app. Person at centre of Care Map: Increased Connectedness Though The VILLAGE App.

**Image on screen:** Smart watch

**Text on screen wearable:** SOS Button, Vitals Monitoring, Fall Detection; Home Device: Voice Assistance, Superintendent, Passive Monitoring, Alerts, vCOP; Mobile Phone: Neighbour, Grandchild, Transport, Caregiver, VILLAGE App; Landline Phone: Friend, 911, Daughter]

**Dida Berku, City Councillor:** There are opportunities to save people here who are healthy, who just have one moment of inattention.

**Image on screen:** Researcher in white lab coat speaks to group at the smart apartment lab

**Nathalie Bier, Associate Professor, Université de Montréal, Institut Universitaire de gériatrie de Montréal:** Technology could play the role of a good neighbor. Someone who is there in support, without being intrusive.

**Dida Berku, City Councillor:** And connect our seniors to the social services, the medical services.

**Image on screen:** Man talks to two volunteer patrollers. Patroller van drives by. EMS first responder closes door to back of truck. Man sitting on couch speaking to his tablet.

**Marc Chriqui, Project Director, The VILLAGE Initiative:** Seniors want data from technology to be used properly and according to their wishes.

**Image on screen:** Outside the Université de Montréal, Institut Universitaire de gériatrie de Montréal building

**Nathalie Bier, Associate Professor, Université de Montréal, Institut Universitaire de gériatrie de Montréal:** The city has a responsibility to protect its senior residents. It has an established credibility with its population that allows it to put in place this innovative project, while maintaining the confidence of its citizens.

**Image on screen:** Outside of the Jewish General Hospital in Montreal.

**Dr. Lawrence Rosenberg, President and CEO, Integrated Health and Social Services University Network for West-Central Montreal:** With the Smart Cities project we will be able to keep patients at home. Keep them in a healthy, secure environment. Keep them out of the hospital if they don't need to be here.

**Dida Berku, City Councillor:** We have to adapt to those seniors who want to have the confidence that they can stay in their homes and still feel comfortable and safe.

**Image on screen:** Hands typing on keyboard. Man looking at computer screen. Man with cane walk in his apartment. Man speaks with senior around a table.

**Words on screen:** Our Pilot Project

**Adi, Pilot Project participant:** I prefer living at home. I tried out one of the residences. I didn't love it, so I came back home.

**Herbert, Pilot project participant:** The future is technology. I would like to see that. I'm counting the days.

**Walter, Pilot project participant:** Today, you know, we can start to do something to make everybody's life better.

**Adi, Pilot project participant:** I think, anything you can help, any little thing is so appreciative.

**Marc Chriqui, Project Director, The VILLAGE Initiative:** There are situations where people might not need these solutions today, but they will need them tomorrow.

**Image on screen:** Single family homes. High-rise apartment buildings. Low-rise apartment buildings.

**Dr. Lawrence Rosenberg, President and CEO, Integrated Health and Social Services University Network for West-Central Montreal:** I think the City of Côte Saint-Luc's and our vision of moving care to wherever the patient happens to be are totally aligned,

**Nathalie Bier, Associate Professor, Université de Montréal, Institut Universitaire de gériatrie de Montréal:** We'll be able to tell the story of Côte Saint-Luc's project in a way that would allow the initiative to be replicated.

**Image on screen:** Montage of seniors speaking at public consultation meeting

**Tanya Abramovitch, Côte Saint-Luc City Manager:** Nobody should ever have Nobody written at the top of their care map.

**Image on screen:** People in peddle boats on lake. Crowd at Canada Day festivities in park.

**[Image on screen:** Mayor Mitchell Brownstein talking]

**Mayor Mitchell Brownstein, Côte Saint-Luc:** We're the perfect place to implement this technology, to ensure safety, good health, connection to community, through the Smart Cities Challenge.

**Image on screen:** End of old film reel

**Text on screen:** Logo of The VILLAGE Initiative: The Future of Aging in the Community. Logos of City of Côte Saint-Luc, Smart Cities Challenge, Government of Canada



**Page(s) 377 to 470  
are withheld  
pursuant to paragraph  
13(1)(d) and 20(1)(b)  
of the *Access to Information Act***

**\*\*\*\***

**La/les page(s) 377 à 470  
Font l'objet d'une exception totale  
conformément aux dispositions de paragraphe  
13(1)(d) et 20(1)(b)  
de la *loi sur l'accès à l'information***